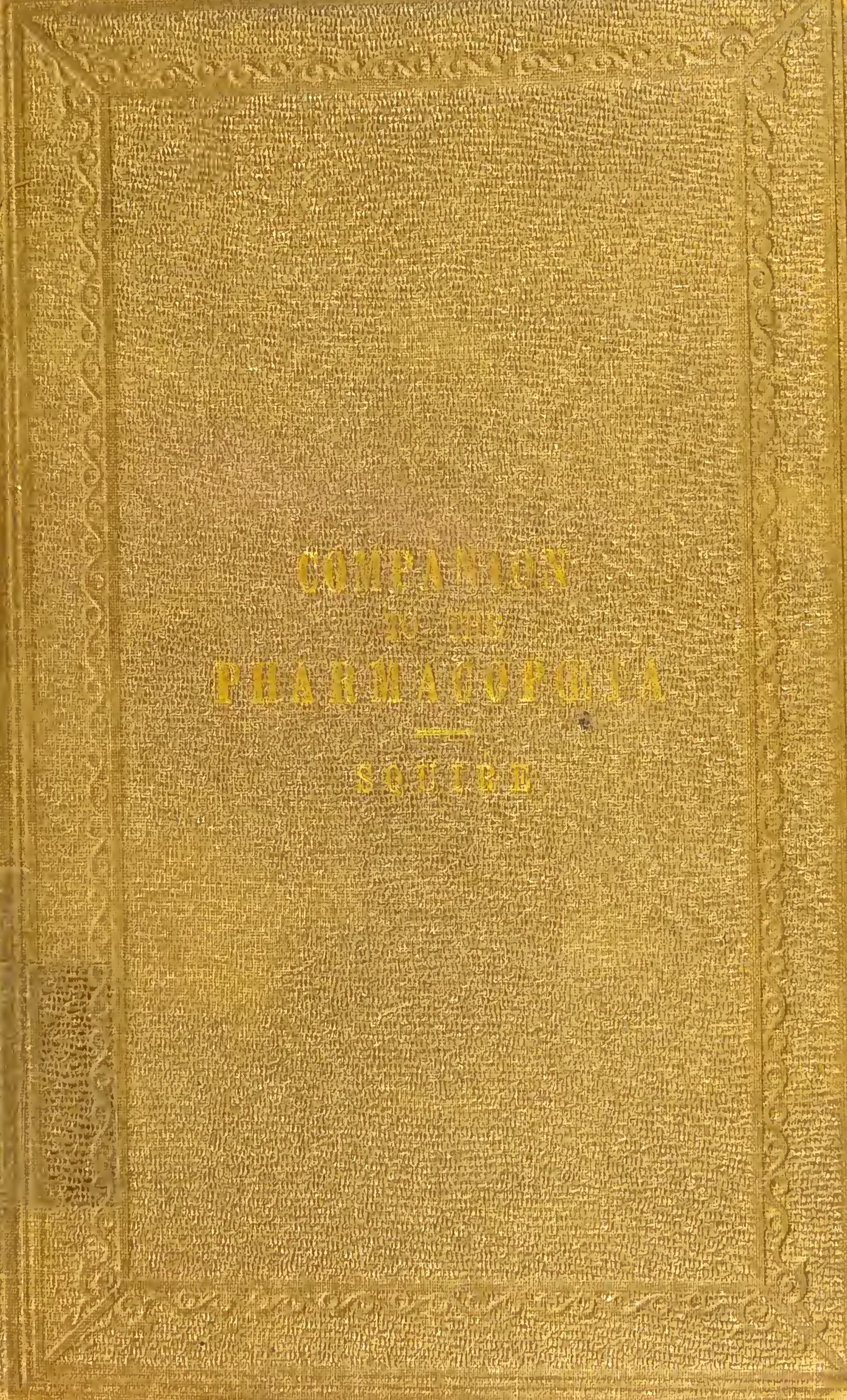

COMPANION
TO THE
PHARMACOPŒIA

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A COMPANION

TO THE

BRITISH PHARMACOPŒIA.

A COMPANION

TO THE

BRITISH PHARMACOPŒIA;

COMPARING THE STRENGTH OF THE VARIOUS PREPARATIONS

WITH THOSE OF

THE LONDON, EDINBURGH, AND DUBLIN,

UNITED STATES, AND OTHER FOREIGN PHARMACOPŒIAS.

WITH

PRACTICAL HINTS ON PRESCRIBING.

BY

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CHEMIST IN ORDINARY TO THE PRINCE OF WALES, AND THE ROYAL FAMILY,
LATE PRESIDENT OF THE PHARMACEUTICAL SOCIETY.

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PREFACE.

This Volume has been written to supply a want which has been generally felt since the publication of the British Pharmacopœia.

The weight which has been adopted by the Medical Council is the avoirdupois pound; it is divided into sixteen ounces, each of which contains 437·5 grains. This weight presents many difficulties in practice, as many of the ingredients have to be expressed in grains. The quantities of the several preparations made at different dispensing establishments will vary according to the amount of business done, so that a calculation has to be made in almost every case. This is no easy matter. If we take for example the formula for Compound Tincture of Benzoin, and wish to prepare half a gallon, it will be necessary to multiply the number of grains of each ingredient ordered by 4, and to divide the number thus obtained by 437·5, to reduce it to ounces. In these cases highly inconvenient weights are obtained, consisting for the most part of ounces and odd numbers of grains. To remedy this defect I have, as far as practicable, expressed the formulæ in parts, which may be regarded either as pounds, quarter pounds, or ounces, or indeed any weights, English or foreign. The liquids, however, are always directed to be measured: I have therefore placed at the top of each page this general direction, "Solids by weight, liquids by measure."

It must be remembered then, that should the parts be considered to represent ounces, the fluid ounce must be used for liquids, the avoirdupois ounce for solids. On the Continent every substance, liquid and solid, is directed to be weighed, and this has caused one of the chief difficulties I have had to encounter. The reduction to the English method has been effected in every case as accurately as possible, but as the specific gravity of each liquid has entered into the calculation, I must claim indulgence for any error which may have crept in.

Although the American weights, like those of the late London and Edinburgh Pharmacopœias, are troy, the pint is only sixteen avoirdupois ounces; this has caused an additional difficulty in obtaining an accurate comparison.

Looking at the anomalous condition of the weights and measures in England and America, we can only hope that Parliament will shortly establish some scheme by which our system may be made to harmonize, and rendered easily comparable with those of foreign countries.

The object of referring to the preparations of foreign Pharmacopœias in the present Work, is to enable prescribers to regulate the prescriptions of patients going abroad, where preparations similar in name but different in composition may be employed. For this purpose the last editions of the French, Belgian, Prussian, Austrian, and United States Pharmacopœias have been taken. This comparison may perhaps even be useful, should foreign countries attempt to assimilate their Pharmacopœias to the British or those of other countries. A similar comparison of the three Pharmacopœias which I made some years ago, was found so useful in the preparation of the British Pharmacopœia, that each member of the Committee was furnished with a copy.

The doses are given to the best of my own judgment in many cases, and in others from the most accredited authorities; and I have stated the solubility of substances in different liquids in those cases where the information seemed likely to be useful. This will enable prescribers to see at once how much the liquid present will take up, and the greater or less solubility in different fluids will indicate the best mode of prescribing.

I have also explained the action of the Tests given in the Pharmacopœia for ascertaining the purity of the substances employed; indicating in each case the particular impurity which may be suspected.

In arranging the Work, I have thought it best to class each preparation under the head of the chief drug which it contains; by this plan a prescriber who wishes to employ any particular substance will find all the preparations made from it, and see at a glance their composition and the proportions of the ingredients.

In addition to this will be found in the alphabetical order a list of preparations in each group, such as Infusions, Tinctures, etc., where the relative proportions of the active ingredients are also shown.

The medicinal properties of the respective preparations have been collated from the best authorities. I am indebted to Dr. Sieveking for various suggestions as the Work has passed through the press; and have ventured to add some hints as to the best mode of prescribing, which have from time to time occurred to me.

As the arrangement of this Volume is strictly alphabetical, an Index has been thought unnecessary.

In conclusion, I may say, that knowing something of the wants of both Pharmaceutists and Prescribers, I have endeavoured to make the book as practical as possible, and I trust that the labour bestowed upon it will not be without some result.

THE AUTHOR.

277, *Oxford Street.*

It is almost unnecessary to explain the few Abbreviations used in this Work. In the comparison of the various Pharmacopœias, the abbreviations Austr. Belg. Fr. Pr. and U. S. refer to the Pharmacopœias of Austria, Belgium, France, Prussia, and the United States.

THE WEIGHTS AND MEASURES OF THE BRITISH PHARMACOPŒIA, WITH THEIR SYMBOLS, ARE AS FOLLOWS :—

Weights.

The Avoirdupois pound = 16 oz. = 7000 grs.
1 oz. = 437·5 grs.
1 gr. = 1 gr.

Measures.

C	1 gallon	= 8 pints,	weighing	10 pounds.
O	1 pint	= 20 fluid ounces,	,,	1¼ ,,
fl. oz.	1 fluid ounce	= 8 fluid drachms,	,,	437·5 grains.
fl. dr.	1 fluid drachm	= 60 minims,	,,	54·68 ,,
♏	1 minim		,,	·91 ,,

The Gallon holds 10 lb. Avoirdupois of Distilled Water, at a temperature of 60° Fahrenheit.

In the American Pharmacopœia the Troy ounce of 480 grains is adopted ; but the pound, drachm, and scruple are not used. The measures have the same names as the British, but are different in value, the pint weighing 16 oz. 291·2 grs. Avoirdupois, and the fluid ounce 455·7 grs. In the formulæ, the Acids and Oils are ordered by weight, other liquids by measure. In other foreign countries all medicines are weighed, and the gramme is becoming universally adopted.

The Prussian Pharmacopœia is mostly used in Germany and Russia ; the French in Switzerland ; that of Orosi in Italy.

EQUIVALENTS OF ENGLISH WEIGHTS TO FRENCH GRAMMES.

1 pound avoirdupois	7000 Troy grains	16 ounces	453·592	French	grammes.
	6562·5	15	425·241	,,	,,
	6125	14	396·892	,,	,,
	5687·5	13	368·543	,,	,,
	5250	12	340·194	,,	,,
	4812	11	311·844	,,	,,
	4375	10	283·495	,,	,,
	3937·5	9	255·145	,,	,,
	3500	8	226·796	,,	,,
	3062	7	198·446	,,	,,
	2625	6	170·097	,,	,,
	2187·5	5	141·747	,,	,,
	1750	4	113·398	,,	,,
	1312·5	3	85·048	,,	,,
	875	2	56·699	,,	,,
1 ounce,	437·5	1	28·349	,,	,,
	218·75	½	14·174	,,	,,
	109·25	¼	7·087	,,	,,
	15·43		1		
	1·543		·1, a décigramme.		
1 grain,	1		·0648		
	·15 or $\frac{1}{7}$ nearly		·01, a centigramme.		
	·015 or $\frac{1}{70}$ nearly		·001, a milligramme.		

EQUIVALENTS OF FRENCH GRAMMES TO ENGLISH WEIGHTS.

1 kilogramme,	1000 French grammes	35 ounces and	100	grains.	
	900	31	308¾	,,	
	800	28	80	,,	
	700	24	288¾	,,	
	600	21	60	,,	
	500	17	268¾	,,	
	400	14	40	,,	
	300	10	248¾	,,	
	200	7	20	,,	
1 hectogramme,	100	3	228¾	,,	
	90	3	75	,,	
	80	2	358	,,	
	70	2	203¾	,,	
	60	2	50	,,	
	50	1	333	,,	
	40	1	178¾	,,	
	30	1	25	,,	
	20		308	,,	
1 décagramme,	10		154¼	,,	
	5		77	,,	
1 gramme,	1		15½	,,	nearly.
	·5		7¾	,,	,,
1 decigramme,	·1		1½	,,	,,
	·05		¾	,,	,,
1 centigramme,	·01		$\frac{1}{7}$	,,	,,
	·005		$\frac{1}{14}$	,,	,,
1 milligramme,	·001		$\frac{1}{70}$	,,	,,

BEAUMÉ'S HYDROMETER COMPARED WITH THE SPECIFIC GRAVITY OF LIQUIDS HEAVIER THAN WATER,

1·000 BEING TAKEN AS THE SPECIFIC GRAVITY OF DISTILLED WATER AT 60° F.

Beaumé.	Sp. G.
0	1·000
1	1·007
2	1·014
3	1·022
4	1·029
5	1·036
6	1·044
7	1·052
8	1·060
9	1·067
10	1·075
11	1·083
12	1·091
13	1·100
14	1·108
15	1·116
16	1·125
17	1·134
18	1·143
19	1·152
20	1·161
21	1·171
22	1·180
23	1·190
24	1·199
25	1·210
26	1·221
27	1·231
28	1·242
29	1·252
30	1·261
31	1·275
32	1·286
33	1·298
34	1·309
35	1·321
36	1·334
37	1·346
38	1·359
39	1·372
40	1·384
41	1·398
42	1·412
43	1·426
44	1·440
45	1·454
46	1·470
47	1·485
48	1·501
49	1·516
50	1·532
51	1·549
52	1·566
53	1·583
54	1·601
55	1·618
56	1·637
57	1·656
58	1·676
59	1·695
60	1·715
61	1·736
62	1·758
63	1·779
64	1·801
65	1·823
66	1·847

TABLE COMPARING THE PHARMACEUTICAL HYDROMETER WITH BEAUMÉ'S FOR SPIRIT,

INDICATING AT THE SAME TIME THE SPECIFIC GRAVITY AND PERCENTAGE OF ALCOHOL AT A TEMPERATURE OF 15° CENTIGRADE=NEARLY 60° FAHRENHEIT.

Pharmaceutical.	Beaumé's.	Specific Gravity.	Percentage of Alcohol.
0	10	1·0000	0·
1	11	0·9935	4·6
2	12	0·9863	10·1
3	13	0·9796	16·3
4	14	0·9730	23·0
5	15	0·9669	29·0
6	16	0·9600	34·4
7	17	0·9530	38·5
8	18	0·9473	43·2
9	19	0·9412	47·3
10	20	0·9350	49·7
11	21	0·9290	52·7
12	22	0·9231	55·6
13	23	0·9172	58·5
14	24	0·9114	61·0
15	25	0·9057	63·6
16	26	0·9000	66·0
17	27	0·8944	68·4
18	28	0·8889	70·6
19	29	0·8834	72·7
20	30	0·8781	74·8
21	31	0·8727	76·8
22	32	0·8675	78·9
23	33	0·8623	80·7
24	34	0·8571	82·5
25	35	0·8521	84·3
26	36	0·8471	86·0
27	37	0·8421	87·5
28	38	0·8372	89·1
29	39	0·8324	90·5
30	40	0·8276	92·0
31	41	0·8229	93·3
32	42	0·8182	94·5
33	43	0·8136	95·7
34	44	0·8090	96·8
35	45	0·8045	98·1
36	46	0·8000	98·8
37	47	0·7956	99·8
38	48	0·7912	
39	49	0·7868	
40	50	0·7826	
41	51	0·7783	
42	52	0·7742	
43	53	0·7700	
44	54	0·7659	
45	55	0·7619	
46	56	0·7579	
47	57	0·7539	
48	58	0·7499	
49	59	0·7461	
50	60	0·7422	
51	61	0·7384	

TABLE OF COMPARISON OF THE FAHRENHEIT WITH THE CENTIGRADE THERMOMETER.

1° Fahrenheit = ·555° Centigrade.
1° Centigrade = 1·8° Fahrenheit.

	Fahrenheit.	Centigrade.	
A Mixture of Salt and Ice	0	—17·78	
	5	—15·00	
	10	—12·22	
	15	—9·44	
	20	—6·67	
	25	—3·88	
	30	—1·11	
	32	0·00	Freezing Point.
	35	2·77	
Greatest Density of Water	39·2	4·00	
	40	4·44	
	45	7·21	
	50	10·00	
	55	12·77	
	60	15·56	
	62	16·67	
	65	18·33	
	70	21·11	
	75	23·88	
	80	26·67	
	85	29·44	
	90	32·22	
	95	34·99	
Blood Heat	98°	36·67	
	100	37·78	
	105	40·55	
	110	43·33	
	115	46·10	
	120	48·89	
	125	51·66	
	130	54·44	
	135	57·21	
	140	60·00	
	145	62·77	
	150	65·55	
	155	68·32	
	160	71·11	
	165	73·88	
	170	76·66	
	175	79·43	
	180	82·22	
	185	84·99	
	190	87·77	
	195	90·54	
	200	93·33	
	205	96·10	
	210	98·88	
	212	100·00	Boiling Point of Water.

MATERIA MEDICA

WITH

COMPOUNDS AND PREPARATIONS.

ACACIA.

WHITE TURKEY GUM ARABIC.

Contains about 17 per cent. of water.

Solubility in water, 1 in 1. Insoluble in Alcohol, Ether, and Oils.

Test.—Powder of gum should be white and free from Starch, and therefore, after boiling in water and cooling, should not be rendered blue by Iodine.

Medicinal Properties.

Emollient, emulsive, nutritive.

Preparations.

MUCILAGO ACACIÆ. *Syn.* MISTURA ACACIÆ.

Gum, 40; distilled water, 60: dissolve without heat.

The product will measure 87. Sp. g. 1·170.

(It is rather stronger than Lond., same as Dub.)

It is much used in cough linctuses and lozenges, and frequently to render oils, etc., emulsive with aqueous fluids; 3 drms. are required for 1 oz. of oils or resinous tinctures, 10 drms. for 1 oz. of copaiba. The mucilage should be put into a mortar and the oil added by degrees, with constant trituration. It is sometimes used to make powders into pills, but they become hard after being kept a short time. Castor oil, glycerine, treacle, etc., are therefore to be preferred. Mucilage, if kept, becomes sour, and its emulsive property is impaired.

ACETUM.

VINEGAR.

Impure dilute Acetic Acid, prepared from French Wine by the acetous fermentation.

Test.—Sp. g. 1·008 to 1·022. It is scarcely affected by Chloride of Barium or Oxalate of Ammonia, and not at all by Sulphuretted Hydrogen. Indicating absence of Hydrochloric Acid, Lime, and metals.

Medicinal Properties.

Said to diminish profuse sweating in hectic cases. With sage it forms an astringent gargle. Externally in lotions and fomentations.

Orleans Vinegar may be had at the Italian warehouses; it constantly deposits by keeping, and seems to possess no advantage over our own vinegar, which keeps much better, probably on account of the $\frac{1}{1000}$th part of Sulphuric Acid which is allowed by law to be added.

ACIDUM ACETICUM.

In former Pharmacopœias there were ten degrees of strength ordered of Acidum Aceticum. *The British Pharmacopœia now orders only three :—*

Acidum Aceticum . . .	sp. g. 1·044,	cont. 28 per cent.	8 times stronger than the Diluted.
Acidum Aceticum Dilutum	„ 1·006,	„ 3·5 „	
Acidum Aceticum Glaciale	„ 1·065,	„ 85 „	3 times stronger than the Acidum Aceticum.

ACIDUM ACETICUM.

PYROLIGNEOUS ACID.

Contains 28 per cent. of dry acid.

(Lond. 30·8; Edin. 21; Dub. 28; U. S. 30; Pr. and Austr. 25 per cent.)

Test.—Sp. g. 1·044. 3 fluid drachms require for neutralization 94·5 measures of the volumetric solution of Soda. It leaves no residue when evaporated; gives no precipitate with Sulphuretted Hydrogen, Chloride of Barium, or Nitrate of Silver; and does not give rise to a blue colour when added gradually to an equal volume of the solution of Iodate of Potash previously mixed with a little mucilage of Starch. Indicating absence of metals, Sulphuric Acid, Hydrochloric Acid, Sulphurous Acid.

Equal volumes of this acid and water mixed are of the same neutralizing power as the diluted mineral acids.

There are no Aceta in the British Pharmacopœia.

Contained in Extractum Colchici Aceticum, Linimentum Cantharidis, Acidum Aceticum Dilutum, Liquor Ammoniæ Acetatis, Oxymel.

ACIDUM ACETICUM DILUTUM.

DILUTED ACETIC ACID.

Of the strength of distilled vinegar. Contains 3·5 per cent. of dry acid.

(Lond. 4·6; Edin. 3; Dub. 3·5 per cent.)

Test.—Sp. g. 1·006. 3 fluid ounces require for neutralization 93 measures of volumetric solution of Soda.

Acidum Aceticum, 1; distilled water, 7: mix.

Medicinal Properties.

The same as common vinegar.

ACIDUM ACETICUM GLACIALE.

GLACIAL ACETIC ACID.

Syn. Acidum Aceticum, *Edin.;* Acidum Aceticum Glaciale, *Dub.;* Vinaigre Radicale, *Fr.;* A. A. Glac., *Pr.;* A. A. Conc., *Aust. and Belg.*

Monohydrated Acetic Acid, $HO,C_4H_3O_3$, eq. 60, containing 85 per cent. of dry acid.

Test.—Sp. g. 1·065. 1 fluid drachm requires for neutralization 97 measures of the volumetric solution of Soda. It does not give rise to a blue colour when added gradually to an equal volume of the solution of Iodate of Potash previously mixed with a little mucilage of Starch. Indicating absence of Sulphurous Acid.

It is more than three times stronger than Acidum Aceticum, and twenty-four times stronger than Acidum Aceticum Dilutum. It is a colourless liquid, with pungent acetous odour, and is converted into a mass of crystals when cooled to 32° F.

Medicinal Properties.

Escharotic; used for corns, and warts especially when of a syphilitic character; it speedily vesicates, and thus is useful in cases where Cantharides may do harm, but it causes much pain, and, if applied incautiously, may produce a most troublesome sore. It is employed also, when scented, for vinaigrettes.

It is an ingredient in Mistura Creasoti. Concentrated Acetic Acid dissolves Creasote, yet the quantity ordered in Mistura Creasoti is of no use, as the Creasote dissolves freely without it.

Not Officinal.

Vinegar of Four Thieves.—The Aromatic Acetic Acid of a former Edinburgh Pharmacopœia is intended as a substitute for this celebrated nostrum. Thus: Rosemary, Origanum, dried, of each, 1 oz.; Lavender, dried, ½ oz.; Cloves, ½ dr.; Glacial Acid, 30 oz.: macerate seven days, and strain.

ACIDUM ARSENIOSUM.

WHITE ARSENIC SUBLIMED.

Teroxide of Arsenic, AsO_3; eq. 75.

Solubility in boiling water, 1 in 20; in cold water, 1 in 100.

Test.—Entirely volatilized by heat; sublimes entirely in octahedric crystals. Four grains of it, dissolved in boiling water with 8 grains of Bicarbonate of Soda, discharge the colour of 80·8 measures of the volumetric solution of Iodine. The Iodine converts the Arsenite of Soda into arseniate.

Dose.—$\frac{1}{16}$ to $\frac{1}{8}$ of a grain, in solution; rarely prescribed in the solid form.

Medicinal Properties.

Given in chronic cutaneous diseases; it is an antiperiodic in agues and neuralgic affections. Externally as a powerful caustic, and requires great care in applying it.

Preparations.

LIQUOR ARSENICALIS. Sp. g. 1·009.

Arsenious Acid, 80 gr.; Carbonate of Potash, 80 gr.; Compound Tincture of

Lavender, 5 fl. drms.; distilled water, 20 oz.: boil till dissolved, add the tincture, and make up to 20 oz.

It is of the same strength as in former Pharmacopœias, 4 grs. of Arsenic to the ounce, each fluid drachm containing half a grain.

Dose.—5 to 10 minims twice a day with meals.

ARSENIAS SODÆ.—*See* SODÆ ARSENIAS.

ARSENIATIS SODÆ LIQUOR.—*See* SODÆ ARSENIAS.

ACIDUM BENZOICUM.

BENZOIC ACID.

$HO,C_{14}H_5O_3$, eq. 112.

In white crystalline silky plates, sublimes without residue.

Solubility in water, 1 in 300; in spirit, 1 in 4. Soluble also in caustic alkalies and Lime.

Borax adds much to its solubility in water; 1 of Borax and 1 of acid are soluble in 100 water.

Test.—When heated, it sublimes without residue.

Medicinal Properties.

Stimulant, expectorant; said to cure nocturnal incontinence of urine.

Dose.—10 to 30 grs. in a large quantity of water, or in pills made with Glycerine; 5 grs. acid and 1 min. Glycerine makes a good pill.

Contained in Ammon. Benzoas, and in Tinct. Camphoræ c. Opio.

ACIDUM CITRICUM.

CITRIC ACID.

$3\,HO,C_{12}H_5O_{11} + HO$; eq. 201.

Contains 4 equiv. of water; 3 are basic, and 1 of crystallization. In colourless right rhombic prisms.

Solubility in water, 10 in 6; in rectified spirit, 10 in 15.

Test.—67 grains dissolved in water require for neutralization 100 measures of volumetric solution of Soda. 100 grains dissolved in water require for neutralization 150 grains of Bicarbonate of Potash. It leaves no ash when burnt with free access of air. Dissolved in water, it is not darkened with Sulphuretted Hydrogen, and gives no precipitate when dropped into solution of Lime, or when added to a solution of Acetate of Potash or Chloride of Barium. Indicating absence of metals, Tartaric Acid, and Sulphuric Acid.

Acid, 1, dissolved in Distilled Water, 14, is a substitute for lemon-juice, but neither of them keep long.

17 grs. of Citric Acid, or half a fluid ounce of fresh lemon-juice	neutralize	25 grs.	Bicarbonate of Potash.
		20 ,,	Carbonate of Potash.
		20 ,,	Bicarbonate of Soda.
		35 ,,	Carbonate of Soda.
		15 ,,	Carbonate of Ammonia.
		13 ,.	Carbonate of Magnesia.

It is largely consumed in making the numerous effervescent granular preparations now in use.

Prescribed in powders to be taken with each dose of an alkaline mixture during effervescence; or in solution, directing the quantity to be taken with the alkaline mixture.

Contained in Ferri et Ammoniæ Citras, Ferri et Quinæ Citras, Lithiæ Citras, Potassæ Citras.

ACIDUM GALLICUM.

GALLIC ACID.

$3\,HO, C_{14}H_3O_7 + 2\,HO$; eq. 188. Prepared from Galls.

In acicular prisms of a pale fawn colour.

Solubility in cold water, 1 in 100; in boiling water, 1 in 3; in rectified spirit, 1 in 8; in Glycerine, 1 in 20.

A solution in rectified spirit will mix in any proportion with water without separating, but becomes brown by keeping.

Test.—It leaves no residue when burnt with free access of air. Its solution gives no precipitate with Gelatine, nor does it colour the Protosalts of Iron. Indicating absence of earthy matters and of Tannic Acid.

Medicinal Properties.

Astringent; given in all cases where the bleeding vessels must be reached through the circulation; it is considered by some to be more effective than Tannic Acid. It is given also in pyrosis and the night sweats of phthisis.

Dose.—2 to 5 grs. three times a day, dissolved in warm water or suspended in mixture by mucilage; 10 to 60 grs. every five hours in albumenuria, when the urine is of low specific gravity. It is also given in pills: 30 grs. acid and 4 minims of Glycerine will make 6 pills.

ACIDUM HYDROCHLORICUM.

$HCl, 9\,HO$; eq. 117·5.

Syn. ACIDUM MURIATICUM PURUM, *Edin. Dub.*

Contains 32·2 per cent. of Hydrochloric Acid gas.

(Lond. 32·2; Edin. 34·2; Dub. 35·4; Fr. 32·2; Pr. and Austr. 24; Belg. 36; U. S. 31 per cent.)

Test.—Sp. g. 1·170. 100 minims require for neutralization 100 measures of volumetric solution of Soda. When diluted with four times its volume of distilled water, it gives no precipitate with Chloride of Barium, is not discoloured by Sulphuretted Hydrogen or Sulphocyanide of Potassium, and does not tarnish bright copper-foil when boiled in it. Indicating absence of Sulphuric Acid, metals, and Arsenic.

Medicinal Properties.

In a dilute form, as a refrigerant, antiseptic, and tonic; and used in gargles for ulceration of the throat.

Preparation.

ACIDUM HYDROCHLORICUM DILUTUM.

Acid, 3; Distilled water, 8: mix.

Contains 10·2 per cent. of acid gas.

(Lond. 9; Dub. 9·35; Edin. 10·2; Belg. 9; U. S. 10; Austr. 11 per cent.)

Test.—Sp. g. 1·150. Six fluid drachms require for saturation 99 measures of volumetric solution of Soda; it therefore contains nearly 1 equivalent in grains of Hydrochloric Acid gas.

Dose.—10 to 20 minims with bitter infusions; 1 drm. to 8 oz. of Infusion of Roses for gargles.

ACIDUM HYDROCYANICUM DILUTUM.

DILUTED HYDROCYANIC ACID.

Hydrocyanic Acid, HC_2N, dissolved in water, containing 2 per cent.

(Lond. Dub. 2; Edin. 4; Pr. Austr. U. S. 2; Belg. 2·5; Fr. *Acide Cyanhydrique*, 10 per cent.)

Test.—Sp. g. ·997. Half a fluid ounce of the acid, when treated with an excess of the solution of Soda, requires the addition of 80·66 measures of the volumetric solution of Nitrate of Silver before a permanent precipitate begins to form, which corresponds to 2 per cent. of anhydrous acid.. This test is that of Liebig. The addition of the Soda to the Prussic Acid produces Cyanide of Sodium, and this again becomes Cyanide of Silver when the Nitrate of Silver is dropped in; but as one equivalent of Cyanide of Silver combines with one equivalent of Cyanide of Sodium to form a soluble compound, it is only when exactly one-half of the Cyanide of Sodium has been converted into Cyanide of Silver, that a permanent precipitate is produced. It gives no precipitate with Chloride of Barium, but with Nitrate of Silver it gives a white precipitate entirely soluble in boiling Nitric Acid. Indicating absence of Sulphuric and Hydrochloric Acids.

Medicinal Properties.

Sedative, antispasmodic, given in gastrodynia, allays vomiting, and is useful in some forms of dyspepsia. Externally used in lotions and ointments to allay itching.

Dose.—2 to 5 minims.

Prescribed in Almond Emulsion for cough, and with Bicarbonate of Soda and Peppermint Water for dyspepsia; for Lotions 2 drms. to 8 oz. of Rose Water, and for Ointment ½ drm. to 1 drm. to each ounce of Zinc Ointment.

Not Officinal.

INHALATIO.—Diluted Hydrocyanic Acid, 10 to 15 minims, for one inhalation. (London Hospital Pharmacopœias.)

ACIDUM NITRICUM.

$3\,HO, 2\,NO_5 = (1\tfrac{1}{2}HO, NO_5$; eq. 67).

Contains 79·7 per cent. of dry acid.

(Lond. 60; Edin. and Dub. 79·7; Fr. and Belg. 53·4; Pr. more than 79·7; U. S. 60; Austr. 40 per. cent.)

Test.—Sp. g. 1·500. 1 fluid drachm of the acid requires for neutralization 121·5 measures of the volumetric solution of Soda; 49⅓ minims are then equal to 100 measures. Evaporated, it leaves no residue. Diluted with six volumes of distilled water, it gives no precipitate with Chloride of Barium or Nitrate of Silver. Indicating absence of Sulphuric and Hydrochloric Acid.

It is to be regretted that the Lond. sp. g. 1·420, with four equivalents of water, was not adopted, for it kept without change, and was really strong enough for all pharmaceutical purposes; that of Edin. and Dub. sp. g. 1·500 is too strong to keep even a short time without change. The acid 1·500 mixed with half its volume of water equals acid 1·420.

Medicinal Properties.

It is strongly corrosive, and is applied to phagedenic sores, by means of a pointed glass rod, as a caustic. When diluted it is refrigerant, tonic, and antiseptic. Given in a very diluted form as a drink in febrile diseases, especially typhus.

Preparations.

ACIDUM NITRICUM DILUTUM.

Nitric Acid, 2; Distilled water, 13. Contains 15 per cent. of dry acid.

(Lond. 12; Edin. 11·2; Dub. 13·5; Belg. 17·5; Austr. 20; Pr. 27·6; U. S. 10 per cent.)

Test.—Sp. g. 1·101. Six fluid drachms require for neutralization 100 measures of volumetric solution of Soda.

Prescribed in doses of 15 to 25 minims with bitter infusions and Tincture of Orange. Infusion of Roses made with this acid, in the place of Sulphuric Acid, and sweetened, is the best solvent for Quinine, and is the most elegant form for administering it.

ACIDUM NITROHYDROCHLORICUM DILUTUM.

Nitric Acid, 2; Hydrochloric Acid, 4; Water, 26.

Test.—Sp. g. 1·074. 6 fluid drachms require for neutralization 93·88 measures of the volumetric solution of Soda.

In Dub. and all the foreign Pharmacopœias, the concentrated acids are directed, but the U. S. has both the concentrated, and the diluted corresponding in strength to the other diluted acids. The acids, however, are very properly ordered to be mixed together twenty-four hours, to develope the Chlorine before the water is added.

Medicinal Properties.

Tonic, stomachic, alterative, externally as a bath, or a lotion, for obstructions of the liver.

Dose.—15 to 20 minims with Succus Taraxaci, Tinct. Chiratæ, and Tinct. Aurantii.

Directions for Preparing and Using the Bath.

Mix 8 ounces by measure of this acid with 1 gallon of pure water, temperature 96° or 98° F. Let a flannel roller of ten or twelve inches wide, and sufficient to encircle the body twice, be soaked in the fluid and then wrung, so as to remain only damp. Apply this instantly to the body, covering it with a piece of oiled silk to avoid damping the dress. It should be worn constantly, but should be changed, soaked, and wrung, morning and evening. Glass, glazed earthenware, or wooden vessels should be used. Sponges and towels to be kept in water to prevent them corroding.

ACIDUM PHOSPHORICUM DILUTUM.

DILUTED PHOSPHORIC ACID.

$3\,HO,PO_5$ dissolved in water.

Contains 10 per cent. of real acid.

(Lond. 8·7; Fr. 52; Belg. 40; Pr. 16; Austr. 15; U. S. 8 per cent.)

Test.—Sp. g. 1·080. 6 fluid drachms poured upon 180 grains of Litharge in fine powder, leave, after evaporation, a residue which, heated to redness, weighs 215·5 grains, and is anhydrous Phosphate of Lead. It is not precipitated by Sulphuretted Hydrogen, Chloride of Barium, Nitrate of Silver acidulated with Nitric Acid, or by a solution of Albumen. Indicating absence of metals, Sulphuric Acid, Hydrochloric Acid, and Metaphosphoric Acid. When mixed with an equal volume of pure Sulphuric Acid, and then introduced into the solution of Sulphate of Iron, it does not communicate to it a dark colour. Indicating absence of Nitric Acid.

☞ *This Acid is one-sixth stronger than Lond.*

Medicinal Properties.

Tonic and refrigerant, having properties similar to Sulphuric Acid, but more palatable; it is said to correct the phosphates in the urine, and to allay thirst in diabetes.

Dose.—10 to 20 minims largely diluted with water.

Prescribed with some bitter and aromatic tinctures and syrups, or with the syrup of the Phosphate of Iron, but not with the Syrup of Pyrophosphate of Iron; as the mixture becomes solid.

ACIDUM SULPHURICUM.

Monohydrated Sulphuric Acid, HO,SO_3; eq. 49.

Contains 79·9 per cent. of dry acid.

(Lond. 79; Edin. 79·5; Dub. 79·9 per cent.; in all foreign Pharmacopœias.)

Test.—Sp. g. 1·846.* Half a fluid drachm requires for neutralization 103 measures of volumetric solution of Soda. Evaporated in a platinum crucible, leaves no residue. Diluted with six times its volume of distilled water, it gives no precipitate with Sulphuretted Hydrogen. When a solution of Sulphate of Iron is poured upon it, no purple ring is formed at the surface of the two solutions. Indicating absence of fixed impurities, Arsenic and Nitrous Acid. Sulphate of Lead falls in a white precipitate by dilution merely. Arsenic is detected by Sulphuretted Hydrogen; Nitrous Acid by Sulphate of Iron.

* True Monohydrated Sulphuric Acid has a sp. g. 1·848.

Medicinal Properties.

A powerful caustic, and when so used it is made into a paste with an equal quantity of charcoal; when diluted it is tonic, refrigerant, astringent, exciting the appetite and promoting digestion.

Preparations.

ACIDUM SULPHURICUM AROMATICUM. Elixir of Vitriol.

Contains 11·16 per cent. of dry acid.

(Not in Lond.; Edin. and Dub. 15; U. S. 11·16 per cent.)

Sulphuric Acid, 3; Rectified Spirit, 40; Cinnamon in powder, 2; Ginger in powder, 1¼: macerate for 7 days.

Test.—Sp. g. 0·935. Six fluid drachms require for neutralization 84·75 measures of the volumetric solution of Soda.

Best prescribed alone, to be taken in water.

Dose.—10 to 30 minims.

Not Officinal.

Mynsicht's Elixir of Vitriol.—Cinnamon, Ginger, Cloves, each 3; Calamus Aromaticus, 8; Galangal, 12; Sage, 4; Peppermint, 4; Cubebs, 2; Nutmeg, 2; Aloes-wood, 1; Lemon-peel, 1; Sugar-candy, 32; Rectified Spirit, by weight, 144; Sulphuric Acid, by weight, 96. Digest for three weeks.

Dose.—5 to 10 minims.

ACIDUM SULPHURICUM DILUTUM.

Contains 11·1 per cent. of dry acid.

(Lond. 12; Edin. 11; Dub. 10·5; Pr. Belg. 13·5; Austr. 11; U. S. 10 per cent.)

Sulphuric Acid, 3; Distilled water, 35: mix.

Test.—Sp. g. 1·087. 6 fluid drachms require for neutralization 100 measures of the volumetric solution of Soda indicating 1 eq. in grains of the acid. If Sulphate of Lead is in the strong acid, it is precipitated when diluted.

Prescribed largely diluted in mixture; or in linctuses, with Confection of Hip and Syrup of Mulberries.

Dose.—10 to 20 minims.

ACIDUM SULPHUROSUM.

Sulphurous Acid, SO_2, dissolved in water.

Contains 7 per cent. by weight, or 20 times its volume, of Sulphurous Acid gas.

(Same as U. S. Fr. *Acide Sulphureux*, sp. g. 1·053, containing about 30 times its volume.)

Test.—Sp. g. 1·040. 40 minims mixed with a little mucilage of Starch does not acquire a permanent blue colour with a volumetric solution of Iodine, until 109 measures of the latter have been added. Evaporated, it leaves no residue. This is a test of the strength, for if there is sufficient Sulphurous Acid, it will convert the whole of the 109 measures of volumetric solution of Iodine into Hydriodic Acid, which acid does not permanently render Starch blue.

Medicinal Properties.

It is a powerful deoxidizing agent, disinfecting and antiseptic, and destructive to vegetable life. It is given internally for sarcina ventriculi, and when mixed with two or three times its bulk of water or with an equal bulk of Glycerine, is an excellent application to the skin to destroy parasitic lichens.

Prescribed internally, largely diluted with water, in doses of 1 drm. or more.

Not Officinal.

Sulphite of Soda.—In doses from 20 to 60 grs. for the same purposes as Sulphurous Acid.

Sulphite of Ammonia, 1 oz., with 1 oz. of Acetic Acid to 10 oz. of Water, evolves Sulphurous Acid slowly, and is on that account sometimes preferred as an application to the skin.

ACIDUM TANNICUM.

An acid, $C_{54}H_{22}O_{34}$, eq. 618, obtained from Galls, to the amount of 33 per cent.

Solubility in water, 10 in 8; in rectified spirit, 1 in 1; in Ether, sparingly; in Glycerine, 1 in 8, or if warmed, 1 in 2.

Test.—Exposed to heat it partly melts, swells up, blackens, and at length burns away with a brilliant flame, leaving no residue; it strikes a blue colour with persalts of Iron, and precipitates Gelatine. The organic matter is first reduced to charcoal, and then burnt away. Indicating absence of earthy matters. The Iron and Gelatine tests distinguish it from Gallic Acid.

Medicinal Properties.

Styptic, astringent, in uterine hæmorrhage and diarrhœa.

Dose.—2 to 5 grs.

Prescribed in water, and may be combined with the protosalts (but not with the persalts) of Iron; with Potash, Soda, and Ammonia. 1 minim of Glycerine with 4 grs. makes a nice pill. Externally as a styptic, dissolved in Glycerine; as a wash, 5 grs. to 1 oz. of water; in ointments 40 grs. to 1 oz. 60 grs. to 1 oz. of Chalk makes an astringent dentifrice. For an injection, 5 grs. to 1 oz.

Preparations.

SUPPOSITORIA ACIDI TANNICI.

Tannic Acid, 24 grs.; Glycerine, 20 minims; Prepared Lard, a sufficiency; White Wax, a sufficiency. Melt Lard, 80 grs., and Wax, 40 grs., in a water-bath; when nearly cold, add the Tannic Acid, previously mixed with the Glycerine. Divide into 12 suppositories. Dip them into a melted mixture of Wax 3, Lard 8, to form a coating.

Each suppository contains 2 grains of Tannic Acid.

A new preparation.

1 drm. of Tannic Acid in a suppository placed in the vagina, and plugged in with a sponge, effectually stops hæmorrhage.

Cacao butter answers perfectly to mix with it for a suppository.

TROCHISCI ACIDI TANNICI.

Each lozenge contains half a grain.

A new preparation.

ACIDUM TARTARICUM.

An acid, $2HO, C_8H_4O_{10}$, eq. 75, obtained from the Acid Tartrate of Potash.

Solubility in water, 10 in 8; in rectified spirit, 1 in 8.

Test.—100 grains neutralize 133 grains of Bicarbonate of Potash. 75 grains dissolved in water require for saturation 100 measures of volumetric solution of Soda. Its aqueous solution is not affected by Sulphuretted Hydrogen, and gives no precipitate with solution of Sulphate of Lime, or Oxalate of Ammonia. Indicating absence of metallic contamination and Lime. If free from Lime it should leave no residue when burnt. It is distinguished from all other acids by forming with a solution of any neutral salts of Potash, a crystalline precipitate (a bitartrate).

Medicinal Properties.

The same as Citric Acid, for which it was once substituted.

When citric acid was very dear, tartaric acid was much employed to make saline draughts, and it frequently perplexed the dispenser, for if the bicarbonate of potash was added to a solution of tartaric acid, bitartrate was immediately formed, and was precipitated, whereas if tartaric acid was added to the potash salt, it might be added to the point of saturation, and remain perfectly soluble.

Contained in the tartrates of alkalies, antimony, and iron.

ACONITIA.

An alkaloid, $C_{60}H_{47}NO_{14}$, obtained from Aconite Root.

(Contained in U. S., Belg.)

Solubility 1 in 150 in cold water, 1 in 50 in boiling water, more soluble in Alcohol; entirely in pure Ether.

Test.—When burnt it leaves no residue.

Medicinal Properties.

It relieves acute nervous pain when rubbed on the part in the form of ointment.

Preparation.

UNGUENTUM ACONITIÆ.

Aconitia, 8 grs.; Rectified Spirit, $\frac{1}{2}$ drm.; Lard, 1 oz.: mix.

ACONITUM.

ACONITE.

HERB.

The fresh leaves and flowering tops of *Aconitum Napellus*, gathered when about one-third of the flowers are expanded, from plants cultivated in Britain.

Medicinal Properties.

Useful in acute rheumatism, gastrodynia, and carcinoma. It diminishes expectoration in phthisis.

Preparation.

EXTRACTUM.

The inspissated juice.

(100 lb. of plant produces 33 lb. of juice $= 3\frac{1}{3}$ lb. extract. Same strength as Lond. and about half that of Edin.; Pr. and Austr. half the strength. U. S., alcoholic, from dried leaves. Fr. and Belg., from juice of the plant evaporated, dried and powdered.)

Dose.—2 to 8 grs.

ROOT.

The root collected during winter and dried, or imported from Germany.

Medicinal Properties

Are the same as of the plant, but possessed in a stronger degree. Internally it lowers the pulse; externally, it relieves painful rheumatism.

Preparations.

LINIMENTUM.

Aconite Root, 20; Camphor, 1; Rectified Spirit to percolate, 20: moisten the root seven days, then pack in a percolator, and add sufficient Rectified Spirit to produce with the Camphor 20.

A new preparation.

Prescribed, mixed, in equal proportions, with soap liniment or compound camphor liniment.

TINCTURA.

Powdered root, 1; Rectified Spirit to percolate, 8: macerate for forty-eight hours with three-fourths of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 8.

Dose.—20 to 30 minims twice or thrice a day.

(This tincture is one-third the strength of Lond.; one-fourth of Dub.; one-sixth of Fleming's tincture.)

It is said by Dr. Fleming to be less likely to irritate the bowels than the extract.

ACONITIA.—*See* ACONITIA.

Not Officinal.

Extractum Aconiti Rad. Alcoholic. is about double the strength of the Extractum Radicis Aconiti.—These two extracts, together with Liston's strong tincture, Fleming's tincture, etc., will doubtless be superseded by the preparations mentioned above, and if the Linimentum is mixed with lard in the proportion of 2 drms. to 1 oz. of lard, it may answer all the purposes of the very expensive preparation of Aconitine ointment.

ADEPS PRÆPARATUS.

PREPARED LARD.

Syn. AXUNGIA, *Edin.*

(In all the former and foreign Pharmaeopœias.)

Soluble entirely in Ether; melts at 100° F. Lard is not adulterated as a rule, but it is frequently prepared with little care, and consequently bad in colour and odour. It is the basis of several ointments; and should be freshly prepared from flare of recently-killed pork, the membrane being first carefully picked out. It is then liquefied over a water-bath at a boiling heat, strained, and again heated until bright and entirely free from water. (*No salt to be added.*) It is apt to grow rancid by keeping, and even becomes mouldy if it contains water.

Preparations.

UNGUENTUM SIMPLEX.

Prepared Lard, 3; White Wax, 2; Almond Oil, 3: melt together.

(U. S., Lard, 4; White Wax, 1.)

Not Officinal.

ADEPS BENZOATUS is much prescribed, and is made by heating 16 oz. Lard with 1 oz. Benzoin in coarse powder, for two hours.—U. S.

ADEPS OXYGENATUS is made by heating 8 of Lard with 1 Nitric Acid, added by degrees, and stirring till nitrous gas is given off, then continuing the stirring until it solidifies. Useful to dilute Citrine ointment; for when Lard is used it reduces the Mercury, and thereby destroys the lemon colour of the ointment.

A Good Substitute for Lard is—

LINIMENTUM SIMPLEX (Edin.).—Wax, 1; Olive Oil, 4; liquefied together. This does not grow rancid for many months.

A mixture of Cacao butter and the best olive oil, in equal weights, keeps longer free from rancidity perhaps than any other substitute for lard, and is preferable to it for preparing zinc ointment.

Kokum oil and oil of almonds, in equal weights, forms another good substitute, and keeps remarkably sweet.

ÆTHER.

ETHER.

Syn. ÆTHER SULPHURICUS, *Edin. Dub.*

Oxide of Ethyl, C_4H_5O, with about 8 per cent. of rectified spirit.

Solubility in water, 1 in 10; freely in rectified spirit. It should be diluted with spirit before being administered, it then mixes freely with water.

(Lond. and Dub., sp. g. ·750; Edin. ·735.)

Test.—Sp. g. ·735. 50 measures agitated with an equal volume of distilled water, are reduced to 41 by an absorption of 18 per cent., Ph. Brit. This is an error; the author finds that only 12, instead of 18 per cent., are absorbed of Ether, sp. g. ·735. It scarcely reddens litmus; agitated with half its volume of a saturated solution of Chloride of Calcium, it is not lessened in bulk. Indicating absence of acid and water.

Characters and Properties.

It is colourless, of a strong and sweet odour, hot and pungent in taste. It evaporates speedily in the open air with the production of considerable cold. When good, it evaporates from the hand without leaving a disagreeable odour. Its vapour is very dense and very inflammable. It dissolves Iodine and Bromine freely; Sulphur and Phosphorus sparingly. It dissolves Corrosive Sublimate freely, and if Ether be boiled with Calomel contaminated with it, decanted and evaporated, the crystals of corrosive sublimate are left. It is also a solvent of the volatile and fixed oils, many resins and balsams, tannic acid, caoutchouc, and most of the organic vegetable alkaloids. It does not dissolve Potash and Soda, in which respect it differs from Alcohol. Water dissolves a tenth of its volume of Ether, and reciprocally Ether takes up about the same proportion of water. When water dissolves more than a tenth of its volume, the Ether contains water or Alcohol or both. Ether unites in all proportions with Alcohol.

Note.—Methylated Ether leaves an odour after it has evaporated.

Medicinal Properties.

It is a powerful, diffusible stimulant, expectorant, antispasmodic, and narcotic. In nausea it is given as a cordial. It was formerly used for inhalation, and is still preferred by some to chloroform as an anæsthetic.*

Contained in Collodion and Linimentum Cantharidis.

Preparation.

SPIRITUS ÆTHERIS. Called Hoffman's Anodyne Spirit. Sp. g. ·809.
Ether, 1; Rectified Spirit, 2.

(Same as Lond. and Edin., omitting the ethereal oil.)

Dose.—30 to 60 minims.

Prescribed with camphor-water, and frequently with sal volatile or volatile tincture of valerian.

Contained in Tinctura Lobeliæ Ætherea.

ÆTHERIS NITROSI SPIRITUS.

SPIRIT OF NITROUS ETHER.

Syn. Spiritus Ætheris Nitrici, *Lond. Edin.* Sweet Spirits of Nitre.

Nitrous Æther, C_4H_5O, NO_2, dissolved in rectified spirit.

Distilled from Nitrite of Soda.

Test.—Sp. g. ·843. When agitated with twice its weight of a concentrated solution of Chloride of Calcium, 1½ per cent. by volume of Nitrous Ether, separates and rises to the surface. When shaken up with Bicarbonate of Soda, it effervesces but feebly.

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* The Author devised the first apparatus for the inhalation of Ether, which he has presented to the Museum of University College. Mr. Liston performed the first capital operation in this country with this apparatus; the patient not suffering the least pain, nor indeed, after the return of consciousness, could he be persuaded that his leg was off until he felt for it.

Medicinal Properties.

Stimulant, diaphoretic and diuretic; useful in dropsy. This often changes the colour of mixtures by its decomposition, especially when Iodide of Potassium is present.

Dose.—½ drm. to 2 drms. in water.

This preparation will always be of uncertain strength, in consequence of the variable composition of the Nitrite of Soda made according to the Pharmacopœia. This substance is a mixture of Nitrate, Nitrite, Carbonate, and Caustic Soda, and will in no case fulfil the conditions laid down in the Pharmacopœia test. The proportion of Nitrite will vary from 5 to 25 per cent. (never more), and the strength of the Spirit of Nitrous Ether will be influenced accordingly.

ALOE BARBADENSIS.

The juice of the leaf of the *Aloe vulgaris,* inspissated; imported from Barbadoes in gourds.

Solubility: in water, 75 per cent.

It is found by experiment that the aqueous extract is by far the more active than is the resinous portion of Aloes; the Barbadoes Aloes containing a larger amount of this than the Socotrine is perhaps the reason why the Barbadoes is the most purgative.

Medicinal Properties.

Purgative. Employed as an enema in dislodging ascarides from the rectum, also as a stimulating cathartic in the constipation of amenorrhœa.

Preparations.

ENEMA.

Barbadoes Aloes, 40 grs.; Carbonate of Potash, 15 grs.; mucilage of Starch, 10 oz.

(Same as Lond.; not in Edin. or Dub.)

EXTRACTUM ALOES BARBADENSIS.

Barbadoes Aloes, 1 lb., in small pieces, treated with 1 gallon of boiling water for 12 hours, and the clear liquor evaporated.

(Same as Lond.) 100 of Aloes yield 75 extract.

Dose.—1½ to 4 grs.

PILULA ALOES BARBADENSIS.

Barbadoes Aloes, in powder, 2; hard soap, 1; oil of Caraway, ⅛; Confection of Roses, 1.

A new preparation.

Dose.—4 to 8 grs.

Contained also in Pil. Cambogiæ Comp., Pil. Colocynthidis Comp., and Pil. Colocynthidis et Hyoscyami.

Not Officinal.

Aloine.—A yellow crystalline substance, obtained from Aloes.
Dose.—1 to 2 grs.

ALOE SOCOTRINA.

The juice of the leaf of one or more undetermined species of Aloe, inspissated; imported in skins and casks.

Solubility in water, 50 per cent.

Medicinal Properties.

Purgative. Given in mesenteric disease and distended bowels: said to aggravate hæmorrhoids.

Preparations.

DECOCTUM ALOES COMPOSITUM.

Extract of Socotrine Aloes, 90 grs.; Myrrh, bruised, 60 grs.; Saffron, chopped fine, 60 grs.; Carbonate of Potash, 40 grs.; Extract of Liquorice, ½ oz.; Compound Tincture of Cardamoms, 4 fluid oz.; distilled water, a sufficiency: triturate the Aloes, Myrrh, and Carbonate of Potash together; add the Saffron and Extract of Liquorice, and boil in 14 oz. of water for 10 minutes in a covered vessel. Cool, and strain through flannel, and add the Tincture of Cardamoms, with as much water as may be necessary to make up the quantity to 16 fl. oz.

(Same as Dub.; and is 50 per cent. stronger than Edin., and still stronger than Lond.; 16 oz. Ph. Brit. being equal (as to the Aloes) to 27 oz. of Lond., there is relatively less Liquorice than in the Lond., and the British Pharm. preparation is consequently much more bitter.)

ENEMA.

Socotrine Aloes, 40 grs.; Carbonate of Potash, 15 grs.; mucilage of Starch, 10 oz.

(Same as Lond.; not in Edin. and Dub.)

EXTRACTUM ALOES SOCOTRINÆ.

Socotrine Aloes, 1 lb.; treated with 1 gallon of boiling water for 12 hours, and the clear liquor evaporated.

(Same as Lond. and Dub.) 100 of Aloes yield 50 extract.

Dose.—2 to 6 grs.

PILULA ALOES SOCOTRINÆ.

Socotrine Aloes in powder, 2; Powdered Hard Soap, 1; Volatile Oil of Nutmeg, ⅛; Confection of Roses, 1.

(Not in Lond. or Dub.; Edin. does not contain the Nutmeg.)

Dose.—5 to 10 grs.

PILULA ALOES ET ASSAFŒTIDÆ.

Socotrine Aloes in powder, 1; Assafœtida, 1; Powdered Hard Soap, 1; Confection of Roses, 1.

(Same as Edin. U. S. omitting Conf. Rosæ.) Cathartic and antispasmodic.

Dose.—10 to 15 grs.

PILULA ALOES ET MYRRHÆ.

Socotrine Aloes, 2; Myrrh, 1; Dried Saffron, ½; Confection of Roses, 2½.

(The same as Edin.; Lond. and Dub. use Treacle instead of Conf. Roses.)

Stimulant and cathartic.

The formula is very old. It was called Pil. Ruffi two hundred years ago.

Dose.—5 to 10 grs.

TINCTURA ALOES.

Socotrine Aloes, 1; Extract of Liquorice, 3; Proof Spirit, 40: macerate seven days, press, and wash the marc with spirit to make 40.

(Same as Lond. and Edin.; U. S. 1 to 30; Pr. and Austr. 1 to 6; Belg. 1 to 5.)

Dose.—1 drm. to 3 drms.

VINUM ALOES.

Aloes, $1\frac{1}{2}$ oz.; Ginger, 80 grs.; Cardamoms, 80 grs.; Sherry, 40 oz.: digest seven days and strain.

(Same as Edin.; one-third weaker than Lond.)

Dose.—1 to 2 drms.

Contained also in Extractum Colocynth. Comp. and Pil. Rhei Comp.

ALUMINIUM.

ALUMINUM.

Al; eq. 14.

A silver-white metal, sonorous, unalterable in the air, and lighter than glass, having the sp. g. 2·560.

Indicated by Sir Humphry Davy in 1808; made by Wöhler by decomposing its chloride with Sodium in 1828, and first produced in ingots by M. Deville in 1854. It resists the action of Nitric and Sulphuric Acids, but is readily attacked by Hydrochloric Acid. Its oxide, being identical with Sapphire, forms an impermeable crust. Its use is limited at present to jewellery, but, from its extreme lightness and tenacity, it promises to be much more extensively employed.

Neither Aluminum nor Alumina is in the British Pharmacopœia. Alumina, however, is much used to fine turbid medicinal waters, or other solutions, and is easily obtained by adding in excess a solution of Carbonate of Potash to a solution of Alum.

Roche Alum is scarcely ever used.

ALUMEN.

ALUM.

Sulphate of Alumina and Potash, $Al_2O_3,3SO_3 + KO,SO_3 + 24HO$; eq. 474·6.

Solubility in boiling water, 10 in 8; in cold water, 1 in 12. Insoluble in rectified and proof spirit.

Test.—Entirely soluble in hot solution of Soda without evolving Ammonia. Not coloured blue by a mixture of the Ferrocyanide and Ferridcyanide of Potassium. Indicating absence of ammonia and of iron.

A great deal of Alum is a sulphate of alumina and ammonia; the above test is given to ensure the Potash compound.

Medicinal Properties.

Astringent in ten-grain doses; purgative in drachm doses; emetic in repeated doses.

Preparation.

ALUMEN EXSICCATUM.

100 parts of Alum yield 55 parts of burnt Alum; escharotic, used to remove fungous flesh; also in doses of 5 to 10 grains in obstinate constipation, given in honey, or made into boluses with Conserve of Hips.

Not Officinal.

Alum Cataplasm.—Alum, 60 grs.; the whites of two eggs.
Alum Whey.—Alum, 120 grs. in a pint of milk.

Prescribed in syrup or treacle, 15 grs. three times a day for internal hæmorrhage; has been known to succeed in bleeding from the kidney, when gallic acid has failed; also used as a gargle for relaxed throat, 2 drms. in 6 oz. water; as a lotion for the eyes in children or adults when there is mucus or purulent matter; 1 to 3 grs. in 1 oz. water.

AMMONIACUM.

AMMONIAC.

A gum-resinous exudation from the stem of *Dorema Ammoniacum*, in tears and masses.

Contained in Emplastrum Galbani (*see* Galbanum), and in Pilula Scillæ Composita (*see* Scilla).

Medicinal Properties.

Stimulant, expectorant in chronic catarrh and asthma, either in mixture or in pill.

Preparations.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Ammoniac, 12 oz.; Mercury, 3 oz.; Olive Oil, 1 drm.; Sulphur, 8 grs.

(Same as Lond. and Edin.; Dub., Ammoniac Plaster, 4 oz.; Mercurial Plaster, 8 oz.)

Applied to glandular swellings in syphilitic cases.

MISTURA AMMONIACI.

Ammoniac, 15 grs., rubbed down with water, 1 oz.

(Same as Lond. and Dub., not in Edin.)

Dose.—Half an ounce to one ounce, as an expectorant; may be combined with Tincture of Squills.

Contained also in Pilula Scillæ Composita.

AMMONIA.

The whole of the Preparations of Ammonia are here grouped.

AMMONIÆ ACETATIS LIQUOR.

SOLUTION OF ACETATE OF AMMONIA. MINDERERUS SPIRIT.

Acetate of Ammonia, $NH_4O,C_4H_3O_3$, dissolved in water.

Strong solution of Ammonia (sp. g. ·891), 7; Acetic Acid (sp. g. 1·044), 20, and measures 26.

(*Five times stronger* than Lond., and *six times* stronger than Edin. and Dub.)

Test.—Sp. g. 1·060. Should be made neutral to test-paper by the addition of either ingredient.

Medicinal Properties.

It increases the secretion by the skin and kidneys, therefore useful in febrile and inflammatory diseases.

Dose.—15 to 60 minims.

Externally, in the proportion of 1 to 40 water, as a collyrium in chronic ophthalmia.

Not Officinal.

Iodide of Ammonium.—More active than Iodide of Potassium. *Dose.*—2 to 5 grs.

Bromide of Ammonium.—Used as a gargle for relaxed larynx, 5 grains to the ounce.

Solution of Arsenite of Ammonia.—Substituting an equivalent of Carbonate of Ammonia for Carbonate of Potash in Fowler's Solution; it was preferred by the late Mr. Gascoin in the treatment of skin diseases.

AMMONIÆ BENZOAS.

BENZOATE OF AMMONIA.

$NH_4O, C_{14}H_5O_3 + HO.$

Benzoic Acid, 2; Solution of Ammonia, 3; Distilled water, 4: dissolve and evaporate to crystallization.

Solubility in water,* 1 in 60; in Rectified Spirit, 1 in 12.

☞ *A New Preparation.*

Test.—When heated, it sublimes without residue.

Medicinal Properties.

Diuretic, employed in dropsy, and in gout when chalk stones are deposited near the joints. It is more soluble than Benzoic Acid, and therefore acts more quickly. Is valuable in catarrhus vesicæ with alkaline urine, also in cases of phosphatic deposit. Benzoic Acid, when taken into the body, appears to take up Glycocol and form Hippuric Acid. The Ammonia does not, like Potash and Soda, pass through the kidneys.

Dose.—5 to 30 grs. in water.

AMMONIÆ CARBONAS.

CARBONATE OF AMMONIA.

Sesquicarbonate of Ammonia, $2\ HN_4O, 3\ CO_2$; eq. 118.

Syn. Ammoniæ Sesquicarbonas, *Lond. Dub.*

Sublimed from a mixture of Chalk and Sal Ammoniac.

Solubility in water 1 in 4; in spirit, sparingly.

Test.—50 grains are exactly neutralized by 84·74 measures of the volumetric solution of Oxalic Acid; 15 grains are neutralized by 17 grains of Citric Acid. Volatilizes entirely when heated.

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* The neutral salt is more soluble; the acid salt is that generally met with.

Medicinal Properties.

Antacid, stimulant, and sudorific.

Dose.—5 to 15 grs.

Preparations.

SPIRITUS AMMONIÆ AROMATICUS. SP. SAL VOLATILE. Sp. g. ·870.

Carbonate of Ammonia, 8 oz.; strong solution of Ammonia, 4 oz.; Volatile Oil of Nutmeg, 4 drms.; Oil of Lemon, 6 drms.; Rectified Spirit, 6 pints; Water, 3 pints: distil 7 pints.

This is a great improvement on the London process; it contains a larger quantity of Carbonate of Ammonia, and does not change in colour by keeping: moreover, it has a most agreeable flavour.

Dose.—30 to 60 minims in water.

AMMONIÆ HYDROCHLORAS.

HYDROCHLORATE OF AMMONIA.

$NH_4Cl.$; eq. 53·5.

Syn. AMMONIÆ MURIAS, *Edin. Dub.*

Solubility in water, 1 in 3.

Test.—When heated, it volatilizes without residue.

Medicinal Properties.

Highly useful in chronic bronchitis, rheumatism, scrofulous and syphilitic enlargement of the glands. Externally as a stimulant and resolvent in indolent tumours.

Prescribed in powders or in solution.

Dose.—10 to 15 grs., in a large wineglass of cold water, frequently repeated, allays distressing fits of coughing in bronchitis. Externally, for lotions, 1 oz., with 1 oz. rectified spirit and 10 oz. water. Vinegar is sometimes added.

AMMONIÆ LIQUOR FORTIOR.

STRONG SOLUTION OF AMMONIA.

Ammoniacal Gas, NH_3, dissolved in water, contains 32·5 per cent.

(Lond. sp. g. ·882; Edin. ·880; Dub. ·900.)

Test.—Sp. g. ·891. 1 fluid drachm requires for neutralization 102 measures of the volumetric solution of Oxalic Acid. When diluted with four times its volume of Distilled Water it does not give precipitates with solution of Lime, Oxalate or Hydrosulphuret of Ammonia, or Ammonio-Sulphate of Copper, and when treated with an excess of Nitric Acid is not rendered turbid by Nitrate of Silver or by Chloride of Barium. Indicating freedom from carbonates, Lime, metals, sulphides, chlorides, and sulphates.

Medicinal Properties.

Stimulant and antispasmodic; relieves nervous headache, and is useful in pneumonia and bronchitis.

Given in the form of Liq. Ammoniæ.

Preparations.

LINIMENTUM AMMONIÆ.

Solution of Ammonia, 1; Olive Oil, 3: mix.

(Same as Dub. Lond. and Edin. are stronger (1 and 2).)

LIQUOR AMMONIÆ. SOLUTION OF AMMONIA. Sp. g. ·959.

Strong solution of Ammonia, 1; Water, 2.

Stimulant and antacid.

(Sp. g. Lond. and Edin. ·960; Dub. ·950)

Dose.—10 to 20 minims in some bland fluid.

Contained also in Linimentum Camphoræ Compositum.

AMMONIÆ PHOSPHAS.

PHOSPHATE OF AMMONIA.

$3NH_4O, PO_5 + 5HO$; eq. 143.

Solubility in water, 1 in 2; insoluble in Rectified Spirit.

Strong solution of Ammonia, 8; diluted Phosphoric Acid, 20: dissolve by a gentle heat and crystallize.

Test.—If 20 grains be dissolved in water, and the solution of Ammonio-sulphate of Magnesia be added, a crystalline precipitate falls, which, when well washed upon a filter with solution of Ammonia diluted with an equal volume of water, dried, and heated to redness, leaves 11·44 grains. The crystalline precipitate is the Ammonio-phosphate of Magnesia, and when this is heated to redness the Ammonia is driven off, and the Phosphate of Magnesia is left.

A new preparation, in colourless transparent prisms.

Medicinal Properties.

Given in gout and rheumatism to render the urates of soda and lime in the blood of gouty persons soluble.

Dose.—10 to 20 grs. 3 or 4 times a day in water.

AMYGDALA.

JORDAN ALMONDS.

Test.—Not bitter nor evolving the odour of Bitter Almonds when bruised with water.

Medicinal Properties.

Demulcent; useful in catarrhal affections.

Preparations.

PULVIS AMYGDALÆ COMPOSITUS.

Syn. CONFECTIO AMYGDALÆ, *Lond.*; CONSERVA AMYGDALARUM, *Edin.*

Blanched Jordan Almonds, 8; Refined Sugar, 4; Gum Arabic, 1: mix.

A new name to an old preparation.

MISTURA AMYGDALÆ.
The above powder, 1; water, 8: triturate and strain.

(Same as Lond. and Dub.; Edin. less than half the strength.)

Dose.—1 to 3 oz.

OLEUM AMYGDALÆ.
The oil obtained by pressure from both Bitter and Sweet Almonds.

Contained in Unguentum Cetacei (*see* CETACEUM); Unguentum Simplex (*see* ADEPS).

Not Officinal.

MISTURA AMYGDALÆ AMARÆ.—Made in the same proportions as Mistura Amygdalæ.

Useful in cough, and as a lotion for acne rosea and impetigo. It was a favourite vehicle for giving tartarized Antimony, in doses of $\frac{1}{8}$ grain, to subdue inflammatory action of the lungs and relieve cough.

AMYLUM.

WHEAT STARCH.

Syn. DECOCTUM AMYLI, *Lond.*

Medical Properties.

Demulcent.

Preparation.

MUCILAGO.
Starch, 1; distilled water, 40: boil for a few minutes.

(Same as Lond. and Edin.; half the strength of Dub.)

Used in enemas.

ANETHUM.

DILL.

The fruit of *Anethum graveolens*, cultivated or imported.

Medicinal Properties.

Carminative: chiefly given to children.

Preparations.

AQUA.
Bruised fruit, 1; water, 16; distil 8.

(Same as Lond. and Edin.)

ANETHI OLEUM. OIL OF DILL.
The oil distilled in England.

ANISI OLEUM.

OIL OF ANISE.

The oil distilled from the fruit; distilled in England, or imported from China.

Test.—Concretes at 50° F.

Medicinal Properties.

Carminative: used to relieve flatulence, and to diminish the griping of purgative medicines.

Dose.—2 to 6 minims, on Sugar.

Contained in Tinctura Camphoræ c. Opio.

ANTHEMIS.

CHAMOMILE FLOWERS.

The flowers of the *Anthemis nobilis*, single and double, dried.

Medicinal Properties.

Tonic and stomachic.

Preparations.

INFUSUM.

Chamomile Flowers, ½ oz.; water, 10 oz.: infuse for 15 minutes.

(Same as Dub.; nearly double the strength of Lond. and Edin.)

EXTRACTUM.

Chamomile Flowers, 1 lb.; Oil of Chamomile, 15 minims; distilled water a sufficiency. Digest the Chamomile in 6 pints of water for 12 hours; pour off the clear liquor and press; again digest, and press as before. Evaporate the mixed liquors by a water bath to a proper consistence, adding the Oil of Chamomile at the end of the process.

(Edin. made with boiling water, without oil.)

OLEUM.

Distilled from the flowers.

Dose.—2 to 6 minims.

Prescribed in pills with rhubarb or other powder. Contained in Extractum Anthemidis.

ANTIMONII OXIDUM.

OXIDE OF ANTIMONY.

Teroxide of Antimony, SbO_3; eq. 153.

Prepared by decomposing a solution of Terchloride of Antimony with Carbonate of Soda.

Test.—Does not yield any sublimate when fused in a test-tube; dissolves entirely when boiled with an excess of Acid Tartrate of Potash. Indicating absence of Arsenic, and other impurities.

Medicinal Properties.

Diaphoretic.

Dose.—3 to 10 grs. in a pill.

(Same as Edin., Dub. and Fr.; Belg.; Austr., Pr., Stibium Oxydatum; not in Lond.)

Preparation.

PULVIS ANTIMONIALIS.

Oxide of Antimony, 1; precipitated Phosphate of Lime, 2: mix.
(Lond. and Edin. by calcination; Dub. by precipitation.)
A new preparation.

Medicinal Properties.

Dose.—5 to 10 grs.

Introduced as a substitute for the celebrated James's Fever Powder.

ANTIMONII TERCHLORIDI LIQUOR.

SOLUTION OF TERCHLORIDE OF ANTIMONY.

Terchloride of Antimony, $SbCl_3$, dissolved in Hydrochloric Acid.

Prepared by boiling Sulphuret of Antimony in Hydrochloric Acid.

Test.—Sp. g. 1·470. 1 drm. mixed with a solution of ¼ oz. of Tartaric Acid in 4 oz. of water, forms a clear solution, which, if heated with Sulphuretted Hydrogen, gives an orange precipitate, weighing, when washed and dried at 212° F., at least 22 grs. (Golden Sulphuret of Antimony.)

Medicinal Properties.

Caustic, usually acts without causing much pain or inflammation, and after the separation of the eschar forms a clean healthy ulcer.

ANTIMONII SULPHURATUM.

SULPHURATED ANTIMONY.

Syn. Antimonii Oxysulphuretum, *Lond.;* Antimonii Sulphuretum Aureum, *Edin.;* Antimonii Sulphuretum Præcipitatum, *Dub.; Fr. Austr. Belg. Pr.* Stibium Sulphuratum Aurantiacum.

Tersulphuret of Antimony, SbS_3, with a small and variable amount of Teroxide of Antimony, SbO_3.

Insoluble in water.

Test.—60 grains dissolved in Hydrochloric Acid, and dropped into water, give a white precipitate which, when washed and dried, weighs about 53 grains (Oxide of Antimony.) When heated with 12 times its weight of Muriatic Acid (sp. g. 1·170) with the aid of heat, it is nearly all dissolved, with the evolution of Sulphuretted Hydrogen. Exposed to heat, it takes fire, and burns with a greenish-blue flame, giving off sulphurous gas; the metal remains as a greyish oxide.

Medicinal Properties.

Alterative, diaphoretic, and emetic; uncertain in action, according to the acidity of the stomach. Usually prescribed with Calomel and Guaiacum, as in Pilula Calomelanos Composita, for secondary syphilis and cutaneous eruptions; or with Henbane or Hemlock in chronic rheumatism.

Dose.—1 to 3 grs. in pill.

Contained in Pilula Calomelanos Composita.

ANTIMONIUM TARTARATUM.

TARTARATE OF ANTIMONY.

Syn. ANTIMONII POTASSIO-TARTRAS, *Lond.* (Tartar Emetic.)

Tartarate of Antimony and Potash, $SbO_3,KO,C_8H_4O_{10}+2HO$; eq. 350·2.

A double salt, being a Tartarate of Antimony and Tartarate of Potash, with two equivalents of water.

Solubility: in water, 1 in 20.

Oxide of Antimony, 5; Acid Tartarate of Potash, 6; distilled water, 40. Dissolve and crystallize.

(Same as Lond. Edin. and Dub.; Austr. Belg. Fr. Pr.)

Test.—20 grs. dissolves without residue in a fluid ounce of distilled water at 60° F., and the solution gives with Sulphuretted Hydrogen an orange precipitate which, when washed and dried at 212° F., weighs 9·91 grs. (Golden Sulphuret of Antimony.)

Medicinal Properties.

In doses of $\frac{1}{8}$ gr. in $\frac{1}{2}$ oz. of Bitter Almond Emulsion, relieves the chest in pneumonia and in bronchitis. In small doses it relaxes, and causes increased secretion from the mucous membranes and skin, and is a *depressant* to the whole vascular system.

As a febrifuge, it is given either in aqueous solution, or as Vinum or Pulvis Antimonialis. In repeated small doses it is used in midwifery in cases of rigidity of the os uteri, or heat and dryness of the passages.

In doses of 2 grs. is an emetic.

Externally, in the form of ointment, it acts as a powerful irritant to the skin, producing a pustular eruption. Is used as a counter-irritant for children: it should, however, be applied with great caution, both on account of its highly irritant properties, and its liability to be absorbed into the system.

Preparations.

UNGUENTUM ANTIMONII TARTARATI.

Tartarated Antimony in fine powder, 1; simple ointment, 4: mix.

(Same as Lond. Edin.; U. S. Pr. and Austr. double the strength of Dub.; Fr. 1 to 3; Belg. 1 to 6.)

VINUM ANTIMONIALE.

Tartarated Antimony, 2 grs.; Sherry, 1 oz.

Each fluid drachm contains $\frac{1}{4}$ gr.

(Same as Lond. Edin. Dub. U. S. Fr. Belg. Pr. and Austr.)

Dose.—15 to 60 minims as a diaphoretic in saline mixtures.

AQUA.

WATER.

The Pharmaeopœia orders the purest Water that can be obtained, cleared, if necessary, by filtration. It must be remembered that water obtained in different localities varies much in respect to its purity, and that what is *actually dissolved* in it cannot be separated by filtration alone.

The following table will show how great a difference exists in the quantity of Lime and saline matters dissolved in various natural waters. We will first take Wenham Lake ice-water, and the Norwegian ice-water, which are the purest of all; next snow-water and rain-water: this latter always contains about a millionth part of Ammonia, and probably the same amount of Chloride of Sodium; next the waters supplied to the towns:—

Loch Katrine,	supplying Glasgow,	contains	2	grs. in the gallon.
River Dee,	,, Aberdeen,	,,	4	,,
,, Tay,	,, Perth,	,,	5	,,
Water supplied to Liverpool		,,	5	,,
Claremont water		,,	5·7	,,
Farnham, in Surrey		,,	7·25	,,
Thames, supplying London		,,	19 to 22, according to locality.	
Water supplied to Watford		,,	22·75	,,
Spring water		,,	40 to 60	,,
River Jordan		,,	75	,,
Whilst in sea-water (sp. g. 1·028)		,,	1500 to 2000	,,
And in the Dead Sea (sp. g. 1·211)		,,	17200 (Marcet).	

Professor Clark, of Aberdeen, invented a soap test, made by dissolving 1 oz. of white curd soap in 1 gallon of proof spirit, to ascertain the amount of Lime in water, and proposed a method of softening all waters impregnated with Carbonate of Lime, which is held in solution by Carbonic Acid, by the addition of just so much lime-water as was capable of uniting with the Carbonic Acid. The whole of the Carbonate of Lime in the water as well as that produced by the action of the Carbonic Acid acting upon the lime-water added, is precipitated, leaving the water comparatively pure. By this process three-fourths of the hardness of water is removed. Care, however, must be taken not to add more lime-water than is just sufficient for the purpose, otherwise this agent will contaminate the water. For further particulars the reader is referred to the 'Pharmaceutical Journal,' vol. vi. p. 526.

The Thames water, when supplied for long voyages, after being kept in tanks about four months, undergoes a kind of fermentation, which lasts for a few weeks, and after this change the water becomes bright, pleasant to drink, and will keep for months or years without further change, a property which scarcely belongs to any other river water.

AQUA DESTILLATA.

Purest water distilled through a block-tin worm, rejecting the first portion that comes over.

The officinal Waters which were in the former Pharmacopœias and omitted in the present, are :—Aqua Ammoniæ Carbonatis, Aqua Anisi, Aqua Cassiæ, Aqua Calcis (now Liquor Calcis), Aqua Chlori (now Liquor Chlori), Aqua Potassæ Effervescens, Aqua Sodæ Effervescens.

The Waters of the British Pharmacopœia are as follow ; the formulæ are given under the names of the substances from which they are prepared. Unless otherwise stated, the strengths are the same as the former Lond. Edin. and Dub. Ph. :—

AQUA ANETHI. From the dried fruit.
AQUA AURANTII. Imported.
AQUA CAMPHORÆ. (Formerly Mistura Camphoræ.)
AQUA CARUI. From the dried fruit.
AQUA CINNAMOMI. From the bark.
AQUA DESTILLATA.
AQUA FŒNICULI. From the dried fruit.
AQUA LAUROCERASI. { Same as Ed. and Dub. Dose 10 to 30 minims.
AQUA MENTHÆ PIPERITÆ. Made with oil and distilled.
AQUA MENTHÆ VIRIDIS. Made with oil and distilled.
AQUA PIMENTÆ. From the dried unripe berries.
AQUA ROSÆ. $\frac{1}{5}$ stronger. From the fresh flowers.
AQUA SAMBUCI. $\frac{1}{5}$ stronger. From the fresh flowers.

It was thought proper in former Pharmacopœias to add spirit to the several distilled Medicated Waters to preserve them from change, but Mr. Warrington has shown, by experiment, that this is an error. He kept bottles of Dill and Anise Waters with and without spirit for two years, and found that those without spirit kept well, whilst those with spirit had become acidified by the spirit changing into Acetic Acid.

Distilled water has, when freshly drawn, an unpleasant odour, which goes off by exposure to air, but Carbonic Acid is in consequence absorbed by it, and Subacetate of Lead will then render it milky. If water is distilled through leaden pipes, it becomes impregnated with lead ; the same is the case with natural soft water passing through leaden pipes. The royal buckhounds were poisoned at Ascot from this cause. Zinc wire reaching the whole length of the column of water so impregnated displaces the Lead. Water containing Sulphate of Lime seems less likely to become impregnated with Lead than those containing the Chlorides.

ARGENTI NITRAS.

NITRATE OF SILVER.

AgO,NO_5 ; eq. 170.

Solubility, 100 grains in 50 minims water, and measures 80 minims.

Test.—10 grains dissolved in 2 fluid drachms of distilled water give, with Hydrochloric Acid, a curdy, white precipitate (Chloride of Silver), which, when washed and thoroughly dried, weighs 8·44 grs., soluble in a solution of Ammonia. The filtrate, when evaporated by water bath, leaves no residue. Nitrate of Silver may be adulterated with Nitrate of Soda or Potash, and these, of course, will remain after the Chloride of Silver has been precipitated and removed.

Medicinal Properties.

Tonic and antispasmodic. It is considered a reliable remedy in epilepsy, though its *modus operandi* is not perfectly understood. It is said to produce most good in this disease when it acts upon the bowels. It is useful in chorea and angina pectoris, as well as in chronic diseases of the stomach accompanied with pain and vomiting. In typhoid fever, for inflammation and ulceration of the ileum, in pills, dose $\frac{1}{4}$ to $\frac{1}{2}$ grain; if diarrhœa be the principal symptom, an injection of 3 or 4 grains to 6 fluid ounces of water is useful to promote cicatrization of internal ulcers. The discoloration of the skin occasioned by its use is first indicated by a dark line on the edges of the gums. This is said to be removed by a steady course of Potassæ Bitartras. Externally, as a collyrium for ulcers of the cornea and aphthous affections of the mouth: it is an excellent application for sore nipples. 40 grains to the ounce is employed to inject on the larynx, or to sponge the throat with in diphtheria; 2 to 4 grains for lotions. (London Hospital Pharmacopœias.)

Prescribed in pills with crumb of bread.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ gr. or more.

ARGENTI OXIDUM.

OXIDE OF SILVER.

AgO; eq. 116.

A dark brown powder, insoluble in water, but soluble in Nitric Acid.

Test.—When heated to redness, 116 parts leave 108 of pure Silver. It is dissolved by Nitric Acid, and precipitated by Chloride of Sodium, and the supernatant liquor ought not to be discoloured by Sulphide of Ammonium.

(Same as Dub. and U. S.; not in others.)

Medicinal Properties.

It has the general therapeutic qualities of the Nitrate, without its escharotic effect, and, as it is said, without discolouring the skin.

Dose.—$\frac{1}{2}$ gr. to 2 grs. in form of pill.

If prescribed with Kreosote in pills, the oxide must be first diffused through some simple powder, or the heat produced in rapidly reducing the Silver causes the mass to become red-hot, or to explode.

ARMORACIA.

HORSE-RADISH ROOT.

The fresh root of the *Cochlearia. Armoracia,* cultivated in Britain.

Its virtues are taken up by water and alcohol. When distilled with alcohol, it yields none of the oil. The root may be kept for some time, if buried in sand in a cool place.

Medicinal Properties.

It is highly stimulant, exciting the stomach, and promotes the secretions, especially that of urine. Externally it is a rubefacient.

Preparation.

SPIRITUS COMPOSITUS.

Fresh Root sliced, 20; dried Orange Peel, 20; Nutmeg, bruised, ½; Proof Spirit, 160; water, 40: mix, and distil over 160.

(Same as Lond.)

Dose.—2 to 4 drms.

Not Officinal.

Infusum Compositum (Lond.).—Fresh Root, sliced, 1; Black Mustard Seed, 1; compound Spirit of Horse-radish, 1; boiling Distilled Water, 20: macerate two hours; strain, and add the spirit.

Dose.—1 to 2 oz. as a warm stimulant.

ARNICA.

ARNICA ROOT.

Leopard's Bane Root, from the South of Europe.

Medicinal Properties.

Stimulant, acting on the brain and the whole nervous system, and irritant to the stomach and bowels; peculiarly useful in diseases attended with a debilitated or typhoid state of the system. Used externally for bruises and wounds, and after extraction of teeth to allay pain.

Preparation.

TINCTURA.

Bruised Root, 1; Rectified Spirit to percolate 20.

(U. S. 4 to 20; Pr. and Austr. 1½ to 20; Belg. 4 to 20: all made of the flowers.)

Dose.—2 to 4 drms.

Used externally, it should be mixed with an equal quantity of hot water and applied with lint.

The British Pharmacopœia Tincture is much weaker than any other. The root was employed in the place of the flowers on account of its having a distinctive odour. The root and flowers have much the same therapeutic strength.

Not Officinal.

Arnica Opodeldoc.—White Soap, 4; Rectified Spirit, 10; Tincture of Arnica, 5; Camphor, 1. Dissolve by heat and strain.

ARSENIC.—*See* ACIDUM ARSENIOSUM.

ASSAFŒTIDA.

ASSAFŒTIDA.

The gum resin exuded from the excised root of *Narthex Assafœtida.* Imported from Bombay.

It yields all its virtues to alcohol, and forms a clear tincture, which becomes milky on the addition of water.

Medicinal Properties.

It is a moderate stimulant, a powerful antispasmodic, an efficient expectorant, and feeble laxative. Useful in cases of flatulency in the bowels, in hysteric paroxysms, and other kinds of nervous affections.

Preparations.

ENEMA.

Tincture of Assafœtida, 1; Mucilage of Starch, 8: mix,

(Lond. with Gum; Edin. 1 in 8; Dub. 1 in 6. Not in foreign Pharmacopœias.)

PILULA ASSAFŒTIDÆ COMP.

Assafœtida, 2; Galbanum, 2; Myrrh, 2; Treacle, 1.

(Same as Dub. Edin. has less Assafœtida. U. S. Assafœtida, 3; Soap, 1.)

Dose.—10 to 20 grs.

TINCTURA.

Assafœtida (small fragments), 1; Rectified Spirit, 8.

(Same as Lond. Edin. Dub. and U. S.; Belg. 1 to 5; Fr. Pr. and Austr. 1 to 10.)

Dose.—½ drm. to 1½ drm.

Prescribed with Aromatic Spirit of Ammonia, or with Mucilage, as the resin separates when mixed with water only.

Contained in Pilula Aloes et Assafœtidæ.

ATROPIA.

ATROPIA.

An alkaloid, $C_{34}H_{23}NO_6$, obtained from Belladonna Root.

Solubility in water, 1 in 500; in Rectified Spirit, 1 in 8; entirely in pure Ether.

Test.—Leaves no ash when burnt with free access of air.

Contained in the Austrian, Belgian, and U. S. Pharmacopœias, but not in others.

Medicinal Properties.

Like Belladonna, it dilates the pupil of the eye. The Unguentum Atropiæ is a much cleaner preparation than Unguentum Belladonnæ.

Preparations.

LIQUOR ATROPIÆ.

Atropia, 4 grs.; Rectified Spirit, 1 drm.; Water, 7 drms.

A new preparation.

UNGUENTUM ATROPIÆ.

Atropia, 8 grs.; Rectified Spirit, ½ drm.; Lard, 1 oz.: mix.

A new preparation.

Not Officinal.

ATROPINE PAPER AND ATROPINE GELATINE, proposed by Mr. Streatfeild and prepared by the author, are extensively used by oculists to dilate the pupil of the eye: a small square or disk being introduced between the eye and the lower lid.

AURANTII AQUA.

ORANGE-FLOWER WATER.

Syn. AURANTII FLORIS AQUA, *Lond.*

The distilled water of the flowers of *Citrus Bigaradia* and *Citrus Aurantium;* prepared mostly in France.

Test.—Not coloured by Sulphuretted Hydrogen. Indicating absence of Lead.

The name of this water should have been Aurantii *Floris* Aqua, for the syrup, the only preparation that is made of it, is so called, to distinguish it from the other Syrupus Aurantii made from the peel.

Medicinal Properties.

A mild tonic, but chiefly used as a flavouring vehicle.

Preparation.

SYRUPUS AURANTII FLORIS.

Orange-flower Water, 8; Refined Sugar, 48; Distilled Water, 16, or a sufficiency. When finished should weigh 72 oz., and measure 54 oz. Sp. g. 1·330.

(Same as Fr. Belg. Pr. and U. S.)

AURANTII CORTEX.

BITTER ORANGE PEEL.

The outer part of the rind of the *Citrus Bigaradia*, dried. Imported from the South of Europe.

Medicinal Properties.

It is a mild tonic, carminative, and stomachic; seldom used alone, but a useful addition to Infusions and Decoctions.

Preparations.

INFUSUM.

Bitter Orange Peel, cut small, 1; water, 20. Infuse for fifteen minutes.

(Lond. Edin. and Dub. with Cloves; not in Fr. Belg. Pr. Austr. and U. S.)

SYRUPUS.

Tincture of Orange Peel, 1; Syrup, 7: mix.

(Lond. and Dub., dried peel; Edin., fresh, much the same in strength but liable to ferment; U. S., sweet peel, spirit, and sugar; Belg., peel, water, and sugar; Pr., peel wine, and sugar; Austr., peel, weak spirit, sugar, and tincture; Fr., fresh orange, sugar, and water.)

Dose.—2 to 3 drms.

TINCTURA.

Bitter Orange Peel, 1; Proof Spirit to percolate, 10.

(Same as Lond. Edin. Dub. and Austr.; not in U. S.; Pr. 1 to 8.)

Dose.—2 to 3 drms.

A much finer flavoured Tincture is made with fresh Orange Peel and Rectified Spirit.

BALSAMUM CANADENSE.—*See* TEREBINTHINA CANADENSIS.

BALSAMUM PERUVIANUM.

BALSAM OF PERU.

A Balsam obtained from the stem of the *Myrospermum Pereiræ* by incision. From Salvador, in Guatemala.

Soluble in 5 parts of Rectified Spirit.

Test.—Not diminished in volume when mixed with water.

Medicinal Properties.

A warm and stimulating tonic and expectorant. Useful in chronic catarrhs, asthma, and other pectoral complaints. Externally for chronic indolent ulcers and for sore nipples.

Dose.—½ drm.

Administered diffused in water by means of Sugar and the Yolk of Egg or Gum Arabic.

Not Officinal.

UNGUENTUM.—Balsam, 1; Lard, 7.

An excellent application for sore nipples or cracked lips.

BALSAMUM TOLUTANUM.

BALSAM OF TOLU.

A Balsam obtained from the stem of the *Myrospermum Toluiferum* by incision; from Tolu, New Granada.

Test.—Entirely dissolved by alcohol and the volatile oils.

Medicinal Properties.

Stimulant, tonic, with a tendency to the pulmonary organs. It should not be given during the inflammatory stages.

Dose.—20 grs., in the form of Emulsion, with Mucilage and Sugar.

Preparations.

SYRUPUS TOLUTANUS.

Balsam of Tolu, 1¼; Sugar, 32; water, 20: boil the Balsam half an hour, adding water when required; filter, add sugar, and dissolve. When finished, weighs 48 oz. and measures 64 oz. Sp. g. 1·33.

(Same as Lond. and Fr.; a little stronger than Dub.; U. S. with Tincture, 1 to 22; Edin. and Belg. with Tincture, 1 to 24; not in Pr.)

Dose.—2 to 4 drms., in cough mixtures.

TINCTURA TOLUTANA.

Balsam of Tolu, 1; Rectified Spirit, 8: dissolve.

(Lond. 1 to 20; Edin. 1 to 12; Dub. 1 to 10; Belg. 1 to 5; U. S. 1 to 10; Fr. 1 to 10; not in Pr. and Austr.)

Dose.—5 to 15 minims.

Contained also in Tinctura Benzoini Composita.

BEBERIÆ SULPHAS.

SULPHATE OF BEBERIA.

The Sulphate of an alkaloid, $C_{38}H_{21}NO_6,HO,SO_3$, obtained from the bark of the *Nectandra Rodiei*, Greenheart tree, growing in British Guiana.

Soluble in water, 1 in 100; in spirit, sparingly.

Test.—Entirely destructible by heat. Water forms with it a clear brown solution, but it soon spoils by keeping.

Medicinal Properties.

Antiperiodic; sometimes given in menorrhagia.

Dose.—2 to 5 grs.

A new preparation.

(Not in any other Pharmacopœia.)

BELA.

BAEL.

The half-ripe fruit of *Ægle Marmelos*, dried; from Malabar and Coromandel.

Medicinal Properties.

Has been much extolled for diarrhœa and dysentery.

Preparation.

EXTRACTUM BELÆ LIQUIDUM.

Bael, 16 oz.; distilled water, 12 pints; Rectified Spirit, 2 oz.; when finished, measures 16 oz., so that a fluid ounce is equal to a solid ounce.

A new preparation.

Dose.—A teaspoonful two or three times a day.

BELLADONNA.

DEADLY NIGHTSHADE.

HERB.

The leaves, fresh and dried, and the fresh branches of *Atropa Belladonna ;* gathered, when the fruit has begun to form, from wild or cultivated plants in Britain.

Medicinal Properties.

Belladonna is a powerful narcotic, possessing diaphoretic and diuretic properties, and is exceedingly valuable in convulsions, neuralgia, hooping-cough, paralysis, and diseases having their seat chiefly in the nervous system.

Preparations.

EMPLASTRUM.

Extract of Belladonna, 2 ; Soap Plaster, 1; Resin Plaster, 1: melt together.

(Same strength as Lond., and double the strength of Edin. and Dub.)

EXTRACTUM.

The inspissated juice of the leaves and stalks.

100 lb. herb yields 50 lb. of juice = 56 oz., or 3½ lb., of extract.
100 lb. leaves, when dried, weigh 16 lb.

(Same strength as Lond., Edin., Dub. and U. S.; Continental Pharmacopœias in powder, and stronger.)

Dose.—¼ to 1½ gr.

TINCTURA.

The dried leaves in coarse powder, 1 ; Proof Spirit to percolate 20.

(Lond. 1 and 10 ; Dub. 1 and 8 ; not in Edin. ; U. S. 1 in 8.)

☞ *Is only half the former strength of London.*

Dose.—From 5 to 20 minims.

UNGUENTUM.

Extract of Belladonna, 1 ; Lard, 5½ : mix.

(Same as Lond. ; not in Edin. or Dub.)

This is not a clean ointment ; ½ to 1 drm. of Liniment of Belladonna to 1 oz. Lard answers well, and is clean.

ROOT.

The root of the plant collected in early spring and dried.

Preparations.

LINIMENTUM.

The powdered root, 20 ; Camphor, 1 ; Rectified Spirit, 20 : moisten the root for seven days, then pack in a percolator, and add sufficient spirit to produce, with the Camphor, 20.

A new preparation ; four times the strength of the extract of the leaves and stalks.

Prescribed with equal parts of Soap Liniment or Compound Camphor Liniment. An excellent topical application for neuralgic pain.

ATROPIA.—*See* ATROPIA.

Not Officinal.

Linimentum Belladonnæ et Chloroformi.—Powdered Root, 20; sufficient Chloroform to percolate 20: mixes with oils, but not with spiritous liniments.

Applied with equal parts or more of camphor liniment or olive oil, for painful rheumatism.

BENZOINUM.

BENZOIN.

The Balsamic Resin, exuded from incisions made in the stem of the Styrax Benzoin, a native of Sumatra, Java, Borneo, Laos, and Siam.

There are two kinds of Benzoin in the market, one in agglutinated masses, the other in tears (from Siam), having the stronger odour.

Solubility. The tears wholly soluble in Alcohol. The mass contains impurities, which are left after treating with Alcohol.

Sp. g. 1·062 to 1·093.

Medicinal Properties.

Stimulant, expectorant, styptic.

Preparations.

ACIDUM BENZOICUM.—*See* ACIDUM BENZOICUM.

TINCTURA COMPOSITA. Formerly Friar's Balsam.

Benzoin, 8; prepared Storax, 6; Balsam of Tolu, 2; Socotrine Aloes, 1½; Rectified Spirit, 80: macerate seven days, filter and wash the mare with spirit to make up 80.

(A compromise between Lond. and Edin.; not in Dub.; U. S. much the same; Belg. and Fr. more complex—Baume du Commandeur.)

Dose.—½ to 2 drms., triturated with mucilage or yolk of egg.

Applied externally to languid ulcers, cuts, or wounds.

Not Officinal.

Unguentum Benzoini (U. S.).—Benzoin, in coarse powder, 1; Lard, 16: heat together in a water bath two hours; strain and stir till cool.

This Benzoated lard is much used for ointments; the Benzoin is said to preserve the lard.

Tinctura Benzoini.—Benzoin, 1; Rectified Spirit, 10: dissolve and strain.

(Same as Pr.; Austr. 1 to 20; Belg. 1 to 5.)

A nice lotion to protect the face from the heat of the sun is made with Tincture of Benzoin, 1; Rose-water, 40.

BISMUTHUM ALBUM.

WHITE BISMUTH.

Syn. Bismuthi Nitras, *Lond.*; Bismuthi Subnitras, *Dub.*

BiO_3,NO_5; eq. 291.

A heavy white powder in minute crystalline scales.

Insoluble in water.

(Same as Lond. Edin. Dub. Austr. Belg. Fr. and Pr.)

Test.—It dissolves in Nitric or Hydrochloric Acid, a little diluted, without effervescence; is not precipitated by diluted Sulphuric Acid. Indicating absence of Lead.

Medicinal Properties.

It is highly useful in pyrosis and some forms of vomiting; also in diarrhœa. Externally it is used as a cosmetic, and in lotion for certain skin diseases.

Preparation.

TROCHISCI.

White Bismuth, 3¼ oz. and 20 grs.; Carbonate of Magnesia, 4 oz.; precipitated Carbonate of Lime, 6 oz.; Sugar, 30 oz.; Gum Arabic, 1 oz.; Water, 6 oz.; Oil of Cinnamon, $\frac{1}{16}$ oz.: make 720 lozenges.

Each lozenge contains 2 grains of White Bismuth.

A new preparation.

Not Officinal.

Liquor Bismuthi Ammonio-Citratis.—Dissolve 430 grains of Metallic Bismuth in sufficient Nitric Acid, then add Ammonia to the solution. Well wash the resulting precipitate with distilled water; gradually add the moist Oxide thus precipitated to a boiling solution of Citrate of Ammonia, made by exactly neutralizing 480 grains of Citric Acid with Ammonia; the precipitate will be slowly but entirely dissolved. The solution should be then neutralized with Ammonia, and water added to make up 20 oz. Each drachm contains 3 grains of Oxide of Bismuth.

BORAX.

BORAX.

Syn. Sodæ Biboras, *Dub.*

Biborate of Soda, $NaO,2BO_3 + 10HO$; eq. 191·1.

A salt imported in a crude state from India; large quantities are also manufactured from the native Boracic Acid of Tuscany, and the native Borate of Lime of Peru.

Solubility in water, 1 in 22; in Glycerine, 1 in 1. By the aid of 1 of Glycerine, 1 part of Borax will dissolve in 12 of Water.

Test.—191 grains dissolved in 10 fluid ounces of distilled water require for saturation 100 measures of the volumetric solution of Oxalic Acid. Biborate of Soda is an alkaline salt, and the quantity of Oxalic Acid required to render it neutral is the proof that it is not contaminated with neutral salts.

Medicinal Properties.

Refrigerant and diuretic. Externally in skin diseases. A saturated solution is applied with great success in pityriasis versicolor. As a cosmetic, 1 in 24 of rose-water; as an ointment, 1 to 8 for cracked nipples.

Dose.—5 to 30 grs.

Preparations.

MEL.

Finely powdered Borax, 1; Clarified Honey, 5½: mix.

Applied to aphthous ulcerations. (Lond. Edin. Dub. and U. S. 1 and 8.)

A great improvement in Mel Boracis would be to dissolve 1 of Borax in 1 of Glycerine, and then add 6 of Honey.

Not Officinal.

Tinctura Myrrhæ et Boracis.—Myrrh, 1; Eau de Cologne, 16; Borax, 1; Water, 3; Syrup, 3.

For the teeth and gums.

BUCCO.

BUCHU.

The dried leaves of the *Barosma betulina*, *B. crenulata*, *B. serratifolia*, imported from the Cape of Good Hope.

Water and Alcohol extract their virtues, which probably depend on volatile oil and extractive.

Medicinal Properties.

Given chiefly in complaints of the urinary organs, attended with excess of uric acid, morbid irritation of the bladder and urethra, diseases of the prostate, and retention or incontinence of urine. Also in dyspepsia, chronic rheumatism, cutaneous affections, and dropsy.

Preparations.

INFUSUM.

Buchu bruised, 1; boiling Distilled Water, 20: infuse for an hour and strain.

(Same as Lond. Ed. and Dub.; U. S. 1 to 16.)

Dose.—1 to 2 oz.

TINCTURA.

Buchu bruised, 1; Proof Spirit, 8: macerate for forty-eight hours with ¾ of the spirit, pack in a percolator, and let it drain, then pour on the rest of the spirit; when it ceases to drop, press the marc, and make up to filter 8.

(Same as Edin. and Dub.; not in Lond. nor in foreign Pharmacopœias.)

Diuretic. *Dose.*—1 to 3 drms.

CAJUPUTI OLEUM.

OIL OF CAJUPUT.

$C_{10}H_9O$; eq. 78·20.

The Oil distilled from the leaves of the *Melaleuca minor*, a small tree in the Molucca Islands.

Very mobile, transparent, of a fine pale bluish-green colour. It has a strong agreeable odour and a warm aromatic taste, and leaves a sensation of coldness in the mouth.

Solubility: entirely in Alcohol.

Test.—Sp. g. ·914. Dropped on water, it speedily evaporates. It burns rapidly, without leaving any residue.

Medicinal Properties.

A powerful topical and general stimulant, antispasmodic, and diaphoretic. Efficacious in dropsy, chronic rheumatism, hysteria, flatulent colic, and other spasmodic and nervous affections, and in low states of the system. Externally, largely diluted with Olive Oil (1 to 2), used to allay chronic rheumatism and gout pains. Applied with lint to carious teeth.

Dose.—1 to 5 minims on a lump of Sugar, or in any bland fluid.

Preparation.

SPIRITUS.

Oil of Cajuput, 1; Rectified Spirit, 9: dissolve.

A new preparation.

Dose.—10 to 50 minims.

Not Officinal.

CALABAR BEAN.

THE ORDEAL BEAN OF OLD CALABAR.

Dr. Christison first called attention to this bean and its poisonous character, but its use in ophthalmic surgery has been developed by the labours of Dr. Frazer, Dr. Richardson, and Mr. Nunneley, of Leeds. The latter gentleman published several letters in the 'Lancet' on the subject in 1863.

Messrs. Jobst and Hope have succeeded in extracting the *active principle*, which they aver resides only in the Cotyledons. The process is somewhat tedious, acting upon the Cotyledons first with alcohol and evaporating; then with water; afterwards with ether, then with sulphuric acid; lastly, throwing down with ammonia. They however consider the alcoholic solution the most practical for medicinal use.

Calabar Paper and Gelatine, imbued with the tincture as first prepared by the author, are in daily use, the latter being considered preferable to the former, dissolving as it does in the eye, and causing no further inconvenience than the contraction of the pupil; these are sold in books and in disks.

CALCIUM.—*See* CALX.

CALOMELAS.

CALOMEL.

Syn. Hydrargyri Submurias; Hydrargyri Chloridum.

Hg_2Cl; eq. 235·5.

Insoluble in Water or Rectified Spirit.

Test.—Entirely volatilized by a sufficient heat. Warm Ether, which has been shaken with it in a bottle, leaves on evaporation no residue. Indicating absence of Corrosive Sublimate.

Medicinal Properties.

Alterative, purgative, and sedative. As an alterative it is used in syphilitic affections, chronic skin diseases, and disorders of the digestive system, particularly of the liver. For this, as in all the uses of Calomel, it is more effective if combined with other medicines, of which it increases the power.

As a purgative, in acting on the bowels, it relieves other affected organs on the principle of counter-irritation. It is useful in threatened apoplexy or paralysis, when the bowels are torpid. It is used to promote the biliary secretions in jaundice, and disorders of the alimentary canal, when there is no inflammation. For children, the absence of taste renders it convenient.

Its *local uses* are numerous, as in snuff, or as a gargle in venereal sore throat, as an injection with or without lime-water, in blenorrhœa, and in fumigation. In a wide range of skin affections, it is invaluable as an ointment.

Preparations.

PILULA CALOMELANOS COMPOSITA.

Calomel, 1; Sulphurated Antimony, 1; Guaiac Resin in powder, 2; Castor Oil, 1: mix.

(Same as Lond. Edin. and Dub.; Belg., Pil. Plummeri; U. S., Pil. Antimonii Comp.)

Dose.—5 to 10 grs.

UNGUENTUM CALOMELANOS.

Calomel, 1; prepared Lard, 5½: mix.

A new preparation.

Not Officinal.

Lotio Hydrarg. Nigra.—Calomel, 3 grs.; Lime-water, 1 oz., or 1 to 160.

CALUMBA.

CALUMBO.

The root of the *Cocculus palmatus*, sliced transversely and dried; from Mozambique. It is easily reduced to powder, which has a greenish tinge, which becomes browner with age, and deepens when it is moistened. The powder attracts moisture from the air, and is apt to undergo decomposition, it should therefore be prepared in small quantities.

Test.—Moistened with a solution of Iodine, it becomes black—indicating presence of Starch. A decoction is not blackened by the persalts of Iron—indicating absence of astringent matter.

Medicinal Properties.

A bitter stomachic and tonic, useful in debility of the digestive organs. Given in convalescence from acute diseases, combined with Alkalis or Bismuth.

Dose.—10 to 20 grs. three or four times a day.

Frequently given with powdered Ginger, Subcarbonate of Iron, and Rhubarb.

Preparations.

EXTRACTUM.

Powdered Calumbo, 1; Proof Spirit, 5: macerate in half the spirit for twenty-four hours, pack in a percolator, and let it drain, then pour on the remaining spirit; percolate, distil off the spirit, and evaporate the residue.

(Same as Austr. Belg. Fr. Pr.)

A new preparation.

INFUSUM.

Calumbo, coarsely powdered, 1; cold Distilled Water, 20: macerate one hour, and strain.

(Made with cold water to prevent the solution of the starch, which takes place when boiling water is used, as directed in Lond.)

(Lond., with hot, ¾ to 20; Edin., with cold, ½ to 20; U. S., with both, 1 to 32; Dub., with cold, 1 to 24; Belg. ¾ to 20.)

TINCTURA.

Bruised Calumbo, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally; pack in a percolator, and let it drain, then pour on the remaining spirit; when it ceases to drop, press, and wash the marc with spirit to make up 8.

(Same as Dub. and U. S., and 50 per cent. stronger than Lond. or Edin.; Belg. 1 to 5.)

Dose.—1 to 2 drms.

CALX.

LIME.

CaO; eq. 28.

The oxide of the metal Calcium in hard flaky masses, which, when well sprinkled with water, should crack, swell up, evolve much heat, and crumble to powder.

Solubility.—At 32° F. twenty oz. of water dissolves 13·25 grs.
60° ditto 11·6
212° ditto 6·7

Test.—If previously slaked, it dissolves without effervescence in dilute Hydrochloric Acid, and if this solution be evaporated to dryness, and the residue redissolved in water, only a very scanty precipitate forms on the addition of saccharated solution of Lime. Indicating absence of Phosphate of Lime.

CALX CHLORATA.

CHLORINATED LIME.

Consists of 1 equivalent of Hypochlorite of Lime, 1 eq. of Chloride of Lime, and a variable amount of Hydrate of Lime.

Test.—10 grains mixed with 30 grains of Iodide of Potassium, and dissolved in 4 fluid ounces of water, produce, when acidulated with 2 fluid drachms of Hydrochloric Acid, a reddish solution which requires for the discharge of its colour at least 85 measures of the volumetric solution of Hyposulphite of Soda.

Explanation.—In this test the Hydrochloric Acid, acting on the Chloride of Lime, liberates Chlorine, and this reacting on the Iodide of Potassium, sets free an equivalent quantity of Iodine, which, if the Chloride of Lime be good, will require the quantity stated of solution of Hyposulphite of Soda to convert it into colourless Iodide of Sodium and Tetrathionate of Soda.

Preparation.

LIQUOR CALCIS CHLORATÆ.

Chlorinated Lime, 1; Distilled Water, 10: triturate and strain.

(Same as Dub.)

Test.—Sp. g. 1·035. 1 fluid drachm, mixed with 20 grains of Iodide of Potassium dissolved in 4 ounces of water, when acidulated with 2 drachms of Hydrochloric Acid, gives a red solution, which requires for the discharge of its colour 46 measures of the volumetric solution of Hyposulphite of Soda.

Medicinal Properties.

Not much employed internally; externally to foul ulcers, burns, chilblains, and cutaneous eruptions, especially the itch.

Dose.—20 to 40 minims.

1 ounce contains nearly 44 grains of chlorinated lime.

CALCIS CARBONAS.—*See* CRETA PRÆPARATA.

CALCIS CARBONAS PRÆCIPITATA.

PRECIPITATED CARBONATE OF LIME.

CaO,CO_2; eq. 50.

Test.—With dilute Nitric Acid it gives a clear solution, which, if perfectly neutral, is not precipitated by saccharated solution of Lime added in excess, or by the solution of Nitrate of Silver.

Note.—The neutral solution must be boiled, to get rid of the Carbonic Acid, before testing. The test will then indicate the absence of phosphates and chlorides.

Chloride of Calcium, 5; Carbonate of Soda, 13; Boiling Water, 9·5: dissolve and precipitate.

(Same as Dub.; not in Lond. Edin. and U. S.; Austr. Belg.)

Medicinal Properties.

Antacid and astringent, a corrective for diarrhœa.

Dose.—10 to 100 grs., in powder or mixture.

CALCIS HYDRAS.

SLAKED LIME.

A white powder, strongly alkaline and caustic. CaO,HO; eq. 37.

Lime, recently burned, 32; Water, 20: slake the Lime. Sift the powder and keep in a bottle.

Solubility: sparingly soluble in water (1 in 800); the solution, on exposure, soon acquires a film of Carbonate of Lime.

Test.—Should not effervesce on the addition of an acid.

Preparations.

LINIMENTUM CALCIS.
Solution of Lime, 1; Olive Oil, 1: mix.

(Same as Lond. and Dub.; Edin. and U. S. are made with Linseed Oil; it is sometimes called Carron Oil; Belg. Solution of Lime, 88, Almond Oil, 12, mix; Fr. 6 to 1.)

Use.—To apply to burns and scalds.

LIQUOR CALCIS. Solution of Lime.
Slaked Lime, 1; Water, 80.

(Lond. Ed. and Dub. and U. S. 1 to 40; Fr.)

Water becomes saturated with much less lime than ordered, therefore Liquor Calcis is the same strength in all, each ounce contains ½ gr. of Lime.

Bottles containing Lime Water should be kept full and well closed from the air.

Dose.—1 to 4 oz. as an antacid.

LIQUOR CALCIS SACCHARATUS.
Slaked Lime, 1; Refined Sugar in powder, 2; Distilled Water, 20: digest for some hours and strain.

A new preparation, containing in each ounce more than 7 grains of Lime.

Test.—Sp. g. 1·052. 1 fluid ounce requires for neutralization 25·4 measures of standard solution of Oxalic Acid, which corresponds to 7·11 grains of Lime.

CALCIS PHOSPHAS PRÆCIPITATA.

PRECIPITATED PHOSPHATE OF LIME.

$3CaO,PO_5$; eq. 156.

Insoluble in water.

Test.—10 grains dissolve perfectly, and without effervescence, in dilute Hydrochloric Acid. The solution yields with Ammonia a white precipitate, which is insoluble in boiling solution of Potash, and when washed and dried weighs 10 grains.

(Dub. and U. S.; Austr.)

Medicinal Properties.

For rickets and mollities ossium; said to be useful in scrofulous affections, and to promote union of bone fractures.

Dose.—10 to 40 grs.

Contained in Pulvis Antimonialis.

CAMBOGIA.

GAMBOGE.

A Gum Resin, imported from Siam.

Soluble in Rectified Spirit, which is rendered of an opaque yellow by water; in Ammoniated Alcohol, which is not rendered turbid by the addition of water; in Ether to the amount of four-fifths.

Test.—An emulsion made with boiling water, and cooled, does not become green on addition of Solution of Iodine. Indicating absence of flour or starch.

Medicinal Properties.

It is employed in the treatment of dropsy, attended with torpidity of the bowels, generally in combination with Elaterium, Bitartrate of Potash, or Jalap. Also in cases of obstinate constipation, and has frequently been found effectual in the expulsion of the tapeworm. As it is apt to occasion much sickness and griping, it is best given in small doses, repeated at short intervals, until it operates.

It may be given in pill or emulsion, or dissolved in an alkaline solution; the last method has been recommended in dropsical complaints.

Dose.—2 to 6 grs. In cases of tænia, may be increased to 10 or 15 grs.

Preparation.

PILULA CAMBOGIÆ COMPOSITA.

Gamboge, 1; Barbadoes Aloes, 1; Aromatic Powder, 1; Hard Soap, 2; Syrup, a sufficiency: mix.

(Same strength as Edin. and Lond.)

Dose.—5 to 10 grs.

CAMPHORA.

CAMPHOR.

Imported from China; a concrete volatile oil obtained from the wood of *Laurus Camphora* by sublimation, and resublimed in bell-shaped masses. The Borneo Camphor from the Dryobalanops, though virtually the same as the officinal, is valued by the Chinese a hundred times more. It sublimes entirely when heated.

Solubility in Water, 1 in 1000; in Rectified Spirit, 1 in 1; freely in Chloroform, Ether, volatile and fixed oils, and Acetic Acid; but not in Alkalis. Carbonic Acid, Bicarbonate of Magnesia, and Myrrh increase its solubility in water.

Test.—Its sp. g. varies from ·986 to ·996. It evaporates entirely if left exposed to the air. It melts at 288° F., boils at 400°, and in close vessels sublimes unchanged.

Medicinal Properties.

In moderate doses it produces (in health) mental exhilaration, increases the heat of the skin, and occasionally diaphoresis. It allays nervous irritation, and produces a general placidity of feeling. In large doses it causes giddiness and disposition to sleep.

Dose.—2 to 10 grs.

Contained in Linimentum Saponis.

Preparations.

AQUA.

Camphor broken small, $\frac{1}{2}$ oz.; Distilled Water, 1 gallon: digest at least two days.

(Same as Lond. Dub. U. S. Belg. Fr.)

Formerly Mistura Camphoræ, and made with a small quantity of spirit. Edin. contained also Almonds.

Dose.—1 oz. = $\frac{1}{2}$ gr. of Camphor.

LINIMENTUM.

Camphor, 1; Olive Oil, 4: dissolve.

(Same as Lond. Edin. Dub. and U. S.; Belg. 1 and 9; Fr. 1 to 7.)

LINIMENTUM COMPOSITUM.

Camphor, 5; English Oil of Lavender, $\frac{1}{4}$; strong Solution of Ammonia, 10; Rectified Spirit, 30: dissolve the Oil and Camphor in the Spirit, and gradually add the Ammonia.

(Same as Dub.; contains nearly twice the amount of Ammonia that was in Lond.; not in U. S. and others. A stimulating embrocation.)

SPIRITUS.

Camphor, 1; Rectified Spirit, 9: dissolve.

(Lond. Dub. and U. S.; Austr. 1 to 8; Edin. and Pr. 1 to 16.)

TINCTURA CAMPHORÆ CUM OPIO.

Opium, in coarse powder, 40 grs.; Benzoic Acid, 40 grs.; Camphor, 30 grs.; Oil of Anise, $\frac{1}{2}$ drm.; Proof Spirit, 20 oz.: macerate seven days, strain, express, wash the marc with spirit, and filter 20 oz.

(Same as Edin. and U. S.; Belg. $\frac{1}{9}$ stronger than Lond. and $\frac{1}{9}$ weaker than Dub.; Pr. contains much more Benzoic Acid and Aniseed.)

Not Officinal.

Essentia.—Camphor, 1; Rectified Spirit, 20:—or Camphor, 1; Rectified Spirit, 18; Tincture of Myrrh, 2.

Ceratum.—Camphor, 2; White Wax, 3; Lard, 4; Oil of Almonds, 3.

Camphor Balls.—Camphor, 2; White Wax, 8; Spermaceti, 2; Oil of Almonds, 3: melt, and pour into half-ounce gallipots.

Camphora cum Creta.—Camphor, 1; Prepared Chalk, 8. A dentifrice.

CANNABIS INDICA.

INDIAN HEMP.

The flowering tops of the female plant of the *Cannabis sativa*, from which the resin has not been removed, dried. Cultivated in India.

We are indebted to Dr. O'Shaughnessy for the first introduction of Indian Hemp in this country. He brought over a quantity with him from India, which the author converted into extract for him, and distributed amongst a large number of the profession under Dr. O'Shaughnessy's directions.

Medicinal Properties.

Dr. Glendinning used it largely, and his opinion is as follows :—"It acts as a soporific or hypnotic in conciliating sleep, as an anodyne in lulling irritation; as an antispasmodic in checking cough and cramp; as a nervine stimulant in removing languor and anxiety, and raising the pulse and spirits without any drawback or deduction on account of indirect or incidental inconveniences, producing tranquil sleep without causing constipation, nausea, or other effect or sign of indigestion, without headache or stupor."

Preparations.

EXTRACTUM.

Indian Hemp, in coarse powder, 1; Rectified Spirit, 5 : macerate seven days, press and evaporate.

Dose.—¼ to 1 gr. in pill.

(Dub. U. S.)

TINCTURA.

Extract of Indian Hemp, 1; Rectified Spirit, 20 : dissolve.

(Same as Dub. and U. S.; not in Lond. and Edin.)

20 minims contain 1 grain of extract.

Dose.—5 to 20 minims.

☞ As the resin is precipitated by water, the tincture should be administered in mucilage, 1 drachm to each dose.

CANTHARIS.

CANTHARIDES.

The *Cantharis vesicatoria* dried; collected in Spain, France, Russia, Sicily, and Hungary.

Test.—Free from mites.

The powder should be kept closely corked, for if at all damp it is apt to acquire a putrid odour.

Medicinal Properties.

Externally its effects are rubefacient and irritant; by continued application it is vesicant. For the latter purpose it is generally used, and is especially effective in inflammation of deep-seated parts, as in pleuritis, pericarditis, pneumonia, etc. It acts for a longer period, and is less irritating to the patient than Ammoniacal or Acetic Acid embrocations. Internally it is administered in chronic affections of the nervous system, paraplegia, etc. It has a diuretic effect, and is given in gleet and other mucous discharges; but it should be given cautiously, for it sometimes produces strangury.

Preparations.

EMPLASTRUM.

Cantharides in very fine powder, 12; Yellow Wax, 7½; prepared Suet, 7½; Resin, 3; prepared Lard, 6: melt the four last together, and stir in the first.

(Same as Lond.; Austr. and Dub. consists of ⅓ Cantharides; Edin. Pr. Belg. ¼ Cantharides.)

Oiled tissue-paper, or very thin silk, is sometimes placed between the plaster and the skin, to prevent irritant action on the urinary organs.

EMPLASTRUM CALEFACIENS.

Cantharides in coarse powder, 4; Boiling Water, 20; expressed Oil of Nutmeg, 4; Yellow Wax, 4; Resin, 4; Soap Plaster, 52; Resin Plaster, 32: infuse the Cantharides in the water six hours, strain and press through calico, and evaporate till reduced to one-third, then add the rest and melt all together.

(Not in Lond. and Edin.; and differs from Dub.)

LINIMENTUM.

Powdered Cantharides, 8; Acetic Acid, 4; Ether, 20: macerate the Cantharides in the Acetic Acid twenty-four hours, and add Ether to percolate 20.

(Not in Lond. and Edin.; Dub. Cantharides, 3; Olive Oil, 12: U. S. Cantharides, 1; Oil of Turpentine, 8.)

Applied with a camel-hair brush speedily produces a blister. The Dub. Liniment will produce a blister, without much pain, in six hours, if a double fold of lint is soaked in it and applied.

TINCTURA.

Cantharides in coarse powder, 1; Proof Spirit, 80; macerate forty-eight hours with ¾ of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 80.

(Same as Lond. Edin. and Dub.; Austr. and Pr. 1 to 7½; Belg. 1 to 5; U. S. 1 to 28.)

Dose.—10 to 20 minims.

UNGUENTUM.

Cantharides in fine powder, 1; Yellow Wax, 1; Olive Oil, 6: melt the Wax and Oil together, and stir in the Cantharides.

(Same as Edin. 1 in 8; Lond. 1 in 9; Dub. 1 in 7; not in U. S.; Belg. 1 in 6; Pr. 1 in 10.)

Employed to promote discharge from a blistered surface.

Not Officinal.

Linimentum Crinale.—Cantharidine, 1 gr.; Rectified Spirit, 3 oz.; Castor Oil, 1 oz.

This Liniment is highly recommended to be applied to the head where the hair is falling off, and is said even to cause it to grow on bald places; but after applying it a few times the head should be washed, or it may accumulate and cause too much irritation.

The following are also employed as blistering agents :—

Brown's Blistering-Tissue ; Papier d'Albespeyres, No. 1, 2, and 3 : 3 is the strongest.

CAPSICUM.

CAPSICUM.

The ripe fruit of the *Capsicum fastigiatum* dried ; imported from the coast of Guinea, and from the East and West Indies, and distinguished in commerce as Guinea Pepper and Pod Pepper.

Medicinal Properties.

A powerful stimulant and condiment. In intermittent fevers with Quinine, in low forms of fever, diarrhœa, cholera, and in the black vomit of hot climates. In dyspepsia and sea-sickness. Used as a gargle in scarlet fever and malignant sore-throat. Externally as a rubefacient.

Dose.—5 to 10 grs. of the powder in a pill, or in less quantity in dinner pills.

Preparation.

TINCTURA.

Capsicum, bruised, 1 ; Rectified Spirit, 27 : macerate twenty-four hours with three-fourths of the spirit, agitating occasionally, pack in a percolator, and let it drain, then pour on the remaining spirit ; as soon as it ceases to drop, wash the marc with spirit to make up 27.

(About the same as Lond. Edin. and U. S. ; half the strength of Dub. Austr. Pr. 1 to 8 ; Belg. Tinct. Piper. Hispan. 1 to 6.)

Dose.—10 to 60 minims.

For a gargle, 1 drm. in 8 oz. of Infusion of Roses.

Not Officinal.

Linimentum Capsici (the Concentrated Tincture of Dr. Turnbull).

Capsicum, 4 ; Rectified Spirit, 12 : macerate seven days.

Used externally for swollen chilblains, and as a counter-irritant. For chilblains, saturate a piece of sponge or flannel with the tincture, and rub the chilblain well until a strong tingling is produced. Continue daily until recovery. A small dossil of lint or cotton, dipped into the tincture, is an excellent remedy for toothache.

CARBO ANIMALIS PURIFICATUS.

PURIFIED ANIMAL CHARCOAL.

Bone Black deprived of its earthy salts.

(Austr. Belg. U. S.)

Bone Black, 16 ; Hydrochloric Acid, 10 ; Distilled Water, a sufficiency.

Test.—If it contains Carbonate of Lime, Hydrochloric Acid will cause effervescence, and the solution obtained will give a precipitate with Carbonate of Ammonia ; and if Phosphate of Lime be present, the acid will dissolve the salt, and yield it as a precipitate on the addition of Ammonia. When burned at a high temperature, with free access of air, it leaves scarcely any residue.

Medicinal Properties.

It is said to have the property of counteracting the poisonous effects of Morphia, Strychnia, and Aconitina. Dr. Rand, of Philadelphia, says that these alkaloids may be swallowed with impunity if mixed in due proportion with purified Animal Charcoal. It destroys the fœtor of ulcers, etc. It is much used as a decolorizing agent in various pharmaceutical processes.

A convenient mode of application to putrid sores has been furnished by Messrs. Pichot et Cie., Paris, in their "Papiers Carbonières," and a softer substance called Charpie, and also Sachets de Charpie Carbonifères.

CARBO LIGNI.

WOOD CHARCOAL.

Wood charred by exposure to a red-heat without access of air.

The Oak, Beech, and Hazel are chiefly employed.

(Belg. Pr. U. S.; Austr. Carbo Ligni Depuratus.)

Test.—When burned at a high temperature, with free access of air, it leaves not more than 2 per cent. of ash.

Medicinal Properties.

Antiseptic and absorbent. Given in cases of distension by intestinal gas, and in foul eructations. Externally it absorbs the fœtor of ulcers.

Dose.—10 to 20 grs. or more.

Preparation.

CATAPLASMA.

Wood Charcoal, 1; Bread, 4; Linseed Meal, 3; boiling Water, 20: mix.

(Rather stronger than Lond.; not in Edin. or Dub.)

CARDAMOMUM.

CARDAMOMS.

The seeds of the *Elateria Cardamomum* contained in their capsules, which are to be removed when the seeds are employed. Cultivated in Malabar.

Medicinal Properties.

Cordial and carminative; less heating and stimulating than some others. A useful adjuvant to purgatives to prevent griping.

Preparation.

TINCTURA COMPOSITA.

Cardamoms, bruised, 1; Caraway, bruised, 1; Raisins, 8; bruised Cinnamon, 2; Cochineal in powder, $\frac{1}{2}$; Proof Spirit, 80: macerate forty-eight hours with $\frac{3}{4}$ of the spirit, agitating occasionally, pack in a percolator, and let it drain, and when it ceases to drop wash the marc with spirit to make up 80.

Dose.—1 to 2 drms.

(50 per cent. stronger than Lond. Edin. and Dub. in Cardamoms and Caraway, but weaker in Cochineal; Dub. contains no Raisins; U. S. contains Honey, and one-half more Cardamoms.)

Contained in

Decoctum Aloes Compositum. Seeds contained in Extractum Colocynthidis Compositum, Pulvis Aromaticus, Tinctura Gentianæ Composita, and Tinctura Rhei.

CARUI.

CARAWAY.

The fruit of the *Carum Carui*, dried. Cultivated in England and Germany.

Medicinal Properties.

Aromatic, stomachic, and carminative. Used occasionally in flatulent colic, and as an adjuvant to other medicines.

Preparations.

AQUA.

Caraway, bruised, 1; Water, 16: distil 8.

(Same as Lond.; Dub. made with essence, containing 96 minims of oil to 8 pints.)

Dose.—1 to 2 oz.

OLEUM.

The Oil distilled in England, sp. g. ·946.

Dose.—2 to 12 drops.

(Pr. Belg. U. S.)

The fruit contained in Tinctura Rhei.

CARYOPHYLLUM.

CLOVES.

The unexpanded flower-bud of the *Caryophyllus aromaticus* dried; cultivated in Penang, Bencoolen, and Amboyna.

Test.—It emits, when indented with the nail, an oil of a strong fragrant odour.

Medicinal Properties.

Stimulant and aromatic; sometimes administered in substance or infusion to correct nausea and vomiting, to correct flatulency, and excite digestion. But chiefly used to qualify other medicines.

Dose.—In substance, 5 to 10 grs.

Preparations.

INFUSUM.

Cloves, bruised, 1; boiling Distilled Water, 40: infuse half an hour, and strain.

(Same as Dub.; rather stronger than Lond. and Edin.; 50 per cent. stronger than U. S.)

Dose.—1 to 2 oz.

OLEUM.

The Oil distilled in England, sp. g. 1·034 to 1·061: is white at first, and becomes coloured by keeping. Soluble in Alcohol, Ether, and strong Acetic Acid.

Dose.—1 to 6 minims.

The powder contained in Pulvis Aromaticus; the oil in Confectio Scammonii.

CASCARILLA.

CASCARILLA.

The Bark of the *Croton Eluteria*, from the Bahamas.

Medicinal Properties.

Aromatic, stomachic, and tonic. Used in dyspepsia, chronic diarrhœa, dysentery, flatulent colic, and other diseases of the bowels. Formerly used in intermittent fevers, but now almost entirely superseded by Cinchona.

Dose.—In powder, 10 to 30 grs.

Preparations.

INFUSUM.

Cascarilla in coarse powder, 1; boiling Distilled Water, 10: infuse an hour, and strain.

(Same as Dub.; rather stronger than Lond. and Edin.; 50 per cent. stronger than U. S.)

Dose.—1 to 2 oz.

This infusion quickly changes, and will scarcely keep good for a day in summer.

TINCTURA.

Cascarilla, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, and add spirit to percolate 8.

Dose.—½ to 2 drms.

(Same as Lond. Edin. Dub.; Pr. 1 to 5; Belg. 1 to 6.)

This tincture is frequently prescribed with the diluted mineral acids, and the mixture is filled with floccules, being the finely-divided resin separated.

CASSIA.

CASSIA PULP.

The pulp of the pods of *Cassia Fistula*, imported from the East Indies, or recently extracted from pods imported from the East or West Indies.

Medicinal Properties.

Laxative. Useful in small doses for habitual costiveness. Large doses occasion nausea, flatulence, and griping; rarely given alone.

Dose.—As a laxative, 1 to 2 drms.; as a purgative, 1 or 2 oz.

Contained in Confectio Sennæ.

CASTOREUM.

CASTOR.

Preputial follicles of the Beaver dried, and the oil sacs rejected, imported from Hudson's Bay.

Medicinal Properties.

Moderately stimulant and antispasmodic. In large doses it quickens the pulse, and increases the heat of the skin, but as usually employed in small doses, it chiefly affects the nervous system. Used in low forms of fever with nervous symptoms, in spasmodic diseases, in hysteria and epilepsy. It is used in diseases connected with the retention or suppression of catamenia.

Dose.—5 to 15 grs.

Preparation.

TINCTURA.

Castor, in coarse powder, 1; Rectified Spirit, 20: macerate seven days, strain, and wash the marc with spirit sufficient to make up to 20.

Dose.—½ to 2 drms.

(Lond. Edin. and U. S. 1 to 16; not in Dub.; Austr. 1 to 8; Belg. and Pr. 1 to 12.)

CATAPLASMATA.

The CATAPLASMS were contained in the London Pharmacopœia only, and are adopted by the Brit. Ph. with very slight modification. The formulæ will be found under the names of the substances from which they are prepared.

CATAPLASMA CARBONIS.
CATAPLASMA CONII.
CATAPLASMATA FERMENTI.
CATAPLASMA LINI.
CATAPLASMA SINAPIS.
CATAPLASMA SODÆ CHLORATÆ.

CATECHU NIGRUM.

BLACK CATECHU.

An extract of the inner wood of the *Acacia Catechu*, imported from Pegu. It generally occurs in irregularly-shaped blackish-brown masses, astringent, and bitter in taste. Commercially known as Cutch.

Solubility. Of 100 parts, only 88 are dissolved by cold Water, the solution being very turbid. 60 parts of Isinglass precipitate the whole of the astringent matter.

Test.—Sp. g. 1·450.

Medicinal Properties.

A powerful astringent. Used chiefly in diarrhœa and some forms of atonic dyspepsia accompanied with pyrosis; also as a remote astringent for hæmorrhage and mucous discharges. Lozenges are convenient for relaxed conditions of the uvula.

The Pharmacopœia allows either Catechu to be used.

CATECHU PALLIDUM.

PALE CATECHU.

An extract of the leaves and young shoots of the *Uncaria Gambir*, prepared at Singapore and in the Eastern Archipelago.

It generally occurs in cubical reddish-brown pieces, porous, bitter and astringent in taste.

Solubility: entirely soluble in boiling Water; the solution, when cold, is not rendered blue by Iodine. Of 100 parts, only 60 are dissolved by cold Water, and the solution is bright. 30 parts of Isinglass precipitate the whole of the astringent matter.

Test.—Sp. g. 1·390.

Catechucin does not precipitate Gelatine.

Medicinal Properties.

Similar to those of Black Catechu, but possessing only half the amount of astringency.

Preparations.

INFUSUM.

Catechu, in coarse powder, 160 grs.; Cinnamon, bruised, 30 grs.; boiling Distilled Water, 10 oz.: infuse half an hour, and strain.

(Same as Dub.; Lond. Edin. and U.S. similar.)

Dose.—1 to 3 oz.

PULVIS COMPOSITUS.

Catechu, 4; Kino, 2; Rhatany, 2; Cinnamon, 1; Nutmeg, 1: mix.

(Not in Lond.; same strength as Dub.)

Dose.—½ to 1 drm. Aromatic, astringent.

TINCTURA.

Catechu, in coarse powder, 1¼; Cinnamon, bruised, ½; Proof Spirit, 10: macerate for forty-eight hours with three-fourths of the spirit, agitating occasionally, pack in a percolator, and let it drain, then pour on the remainder of the spirit; when it ceases to drop, wash the marc with spirit to make up 10.

(Nearly the same as Lond. Edin. and Dub.; Fr. Tinct. Cachechu, 1 to 4½; Pr. and Belg. 1 to 6; Austr. 1½ to 8; U. S. 1 to 10.)

Dose.—1 to 2 drms.

TROCHISCI.

Pale Catechu, in powder, 4 oz.; Refined Sugar, in powder, 32 oz.; Gum Arabic, in powder, 2 oz.; Tincture of Capsicum, 1 oz.; Distilled Water, a sufficiency: divide into 1440 lozenges (1¼ gr. in each lozenge).

Not Officinal.

⁂ As the following is advantageously used as a substitute for Catechu, it may be proper to introduce it here.

GUMMI RUBRUM.—An exudation from the bark of the *Eucalyptus rostrata*, imported from Australia.

Solubility. Of 100 parts, 90 are dissolved in cold Water, the solution being clear. 27 parts of Isinglass precipitate all the astringent matter.

This gum adheres with great pertinacity to the mucous surfaces, and it is probably on this account that its astringency is more effective than that of the Catechus, although it actually contains a less amount of astringent matter.

Preparation.

SYRUPUS.—15 grains are contained in each drachm.

Dose.—½ to 1½ drm.

Most useful in diarrhœa and dysentery; externally for lotions; and injections for leucorrhœa, in the proportion of 1 or 2 to 20 of water.

CERA ALBA.

WHITE WAX.

Yellow wax, bleached by exposure to moisture, air, and light. British and imported.

Test.—Not unctuous to the touch; does not melt under 150° F.

Medicinal Properties.

Chiefly employed as an ingredient in Ointments.

Contained in Unguenta Cetacei, Plumbi Subacetatis and Sabinæ; also in Suppositoria Acidi Tannici and Morphiæ.

Preparation.

UNGUENTUM SIMPLEX.

White Wax, 2; Prepared Lard, 3; Almond Oil, 3: melt together, and stir till it becomes solid. This is necessary, because the Wax is apt to granulate if the stirring is not continued until it solidifies.

(Edin. Wax, 2; Olive Oil, 5½. U. S. Wax, 2; Lard, 8.)

Not Officinal.

Cold Cream.—White Wax, 1; Spermaceti, 1; Oil of Almonds, 6; Rose Water, 9.

CERA FLAVA.

YELLOW WAX.

The prepared honeycomb of the hive-bee. British and imported.

Test.—Not unctuous to the touch; does not melt under 140° F.; yields nothing to cold Rectified Spirit; but is entirely soluble in Oil of Turpentine.

Boiling Water in which it has been agitated, allowed to get cold, is not rendered blue by Iodine—indicating absence of flour, with which it was formerly mixed; it is, however, rarely adulterated now.

Medicinal Properties.

Chiefly used in medicine as an ingredient of plasters and cerates.

Contained in Unguentum Resinæ, Unguentum Terebinthinæ, Unguentum Cantharidis.

Not Officinal.

CERII OXALAS.

OXALATE OF CERIUM.

CeO, C_2O_3.

Introduced into practice by Dr. Simpson, of Edinburgh. Cerium was discovered in 1803, and is now obtained chiefly from a mineral called Cerite, by boiling it in Hydrochloric Acid, evaporating to dryness, redissolving in Water, neutralizing with Ammonia, adding Succinate of Ammonia to throw down the Iron, filtering and throwing down by Ammonia, and, lastly, dissolving the precipitate in Oxalic Acid.

Medicinal Properties.—Sedative, tonic. Of great value in general chronic intestinal eruption, irritable dyspepsia, gastrodynia and pyrosis, in chronic vomiting, and vomiting during pregnancy. In convulsive diseases, as chorea and epilepsy, it does not produce the discoloration of the skin as does the use of Nitrate of Silver.

Dose.—1 gr. two or three times daily.

CEREVISIÆ FERMENTUM.

BEER YEAST.

The ferment obtained in brewing beer. It consists of numerous round or oval confervoid cells.

Insoluble in Alcohol or Water.

Medicinal Properties.

Tonic and stimulant. May be used in low states of the nervous system and to prevent the formation of boils and carbuncles. It is, however, superseded by more convenient medicines.

Dose.—(Fresh) ½ to 2 oz. every two hours.

Preparation.

CATAPLASMA.

Beer Yeast, 6; Flour, 14; Water (100° F.), 6: mix. Place the mass near the fire till it rises.

Useful in foul and sloughing ulcers.

CETACEUM.

SPERMACETI.

A concretion prepared from the oily matter in the head of the *Physeter macrocephalus*, or sperm whale, inhabiting the Pacific and Indian Oceans.

Soluble in Fixed Oils and in boiling Ether or Alcohol.

Test.—Scarcely unctuous to the touch; does not melt under 100° F.

Medicinal Properties.

Demulcent. Externally it is much employed for ointments and cerates.

Preparation.

UNGUENTUM.
Spermaceti, 5; White Wax, 2; Almond Oil, 20, or a sufficiency.

⁂ The author finds 17 of Oil sufficient.

(Same as Lond. and Belg.; Dub. made with Lard instead of Oil; not in U. S.)

A soft, cool dressing, applied on lint.

Not Officinal.

Mistura Cetacei.—Spermaceti, 60 grs.; Proof Spirit, 15 minims: finely pulverize the Spermaceti by aid of the spirit, and add by degrees half the yolk of an egg, and water sufficient to make 4 ounces.

CETRARIA.

ICELAND MOSS.

A Lichen, *Cetraria Islandica*, native of the North of Europe.

Medicinal Properties.

Demulcent, nutritious, and slightly tonic. Well calculated for affections of the mucous membrane of the lungs and bowels with debility of the digestive organs or system generally. Useful in chronic catarrhs and other chronic pulmonary affections attended with copious purulent expectoration, in dyspepsia, chronic dysentery and diarrhœa, and in debility succeeding acute disease.

Preparation.

DECOCTUM.
Iceland Moss, 1; Distilled Water, 30: boil ten minutes and strain 20.

(Same as Lond. Dub. and U. S.; Belg. 1·25.)

Dose.—1 to 2 oz.

Not Officinal.

Iceland Moss Jelly.—Iceland Moss, 1; Water, 10: boil down to 6, strain and add Sugar, 2.

CHIRATA.

CHIRETTA.

The entire plant of the *Ophelia Chirata*, collected in Northern India, when the fruit begins to form.

Medicinal Properties.

The same as Gentian, but is a purer bitter.

(Edin. Dub. U. S.; not in others.)

Preparations.

INFUSUM.

Chiretta, bruised, 1; Distilled Water (at 120° F.), 40: infuse half an hour and strain.

(Same as Edin. and Dub.; not in Lond.; not in others.)

Dose.—½ to 1 oz.

Salts of Iron may be given in this infusion when a strong bitter is desired as a vehicle.

TINCTURA.

Chiretta, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, press, and wash the marc with spirit to make up 8.

(Same as Dub.; not in Lond. and Edin.; not in others.)

Dose.—10 to 40 minims.

CHLORI LIQUOR.

SOLUTION OF CHLORINE.

Chlorine Gas dissolved in half its volume of water, and constituting 0·006 of the weight of the solution. A yellowish-green fluid, smelling strongly of Chlorine.

Test.—Sp. g. 1·003. Evaporated it leaves no residue. When 20 grains of Iodide of Potassium, dissolved in 1 ounce of distilled water, are added to 1 fluid ounce of the preparation, the mixed solution acquires a deep red colour, which requires for its discharge 75 measures of the volumetric solution of Hyposulphite of Soda. Test explained under Calx Chlorata.

Medicinal Properties.

Stimulant and antiseptic. Useful in typhus fever, and chronic affections of the liver. Diluted, as a gargle in smallpox, scarlatina, and putrid sore-throat. As a wash for ulcers, cancerous sores, buboes, and large abscesses. Dr. Scott, of India, gave it for biliary obstructions in conjunction with the Nitrohydrochloric Acid baths.

Dose.—1 to 2 drms., in a wineglassful of water.

(Same as Lond. Edin. and Belg.; not in Austr. Pr. and U. S.)

Not Officinal.

Inhalatio.—Chloride of Lime, 2 oz. for one inhalation.

(London Hospital Pharmacopœias.)

CHLOROFORMUM.

CHLOROFORM.

C_2HCl_3.

Syn. TERCHLORIDE OF FORMYL.

It is a colourless, limpid, and volatile fluid, the vapour of which is not inflammable, obtained by distillation from a mixture of Chloride of Lime, Caustic Lime, and weak Spirit, the heat being very carefully applied.

Solubility, in Rectified Spirit, 10 in 6; in Ether, 10 in 70; in Water, 10 in 2000; freely in Olive Oil and Spirit of Turpentine. Will not dissolve in Glycerine.

Chloroform has extensive solvent powers, being capable of dissolving caoutchouc, gutta-percha, mastic, elemi, tolu, benzoin, and copal. Amber, sandarac, lac, and wax, are only partially soluble. It also dissolves Iodine, bromine, the organic alkaloids, the fixed and volatile oils, most resins and fats. It dissolves sulphur and phosphorus sparingly.

Test.—Sp. g. 1·496. Is not coloured on its being shaken with Sulphuric Acid. Dropped into water, it suddenly sinks and remains without opalescence. It evaporates speedily, and leaves no residue and no unpleasant odour. Evolves no gas when Potassium is dropped into it.

(Same sp. g. as Dub.; Lond. Belg. 1·480; U. S. 1·450 to 1·490; Austr. 1·490; not in Edin.)

Medicinal Properties.

Internally, a sedative, narcotic, and antispasmodic. May be given as an antiperiodic, when Bark and Quinine fail to effect a cure. Externally, stimulant in senile gangrene, and sloughing ulcers. The vapour is often applied to the eye, and also to the rectum or vagina. Its chief use, however, is to produce anæsthesia by inhalation, and the quantity required for each inhalation must depend on the duration of the operation.

Preparations.

LINIMENTUM.

Chloroform, 1; Liniment of Camphor, 1: mix.

The Oil in the Camphor Liniment, dissolved in the Chloroform, prevents its evaporation.

(U. S. 2 Chloroform to 4½ Olive Oil.)

SPIRITUS.

Chloroform, 1; Rectified Spirit, 19: dissolve.

Formerly called Chloric Ether, and of various strengths.

(U. S. 1 to 9.)

Test.—Sp. g. ·871.

Dose.—30 to 90 minims. 10 or 20 minims frequently prescribed to give a sweetness to draughts, and to cover nauseous flavours.

Not Officinal.

LIQUOR CHLOROFORMI CAMPHORATUS.—Camphor, 1; Chloroform, 2: dissolve. A remedy for toothache, and topically applied for rheumatism.

Tinctura Chloroformi Composita.—Chloroform, 4 oz.; Rectified Spirit, 4 oz.; Treacle, 4 oz.; Extract of Liquorice, 2½ oz.; Muriate of Morphia, 8 grs.; Oil of Peppermint, 16 minims; Syrup, 17½ oz.; Prussic Acid (2 per cent.), 2 oz.

This has been represented to the author as the composition of the popular medicine called Chlorodyne, and he has published it in order that those who object to prescribe proprietary medicines may be able to prescribe a compound under the above name with a knowledge of its composition.

Dose.—5 to 10 minims.

Unguentum.—Chloroform, 1; Lard, 2.

Inhalatio.—Chloroform, 15 minims for one inhalation.

(London Hospital Pharmacopœias.)

CINCHONA.

CINCHONA BARK.

From Peru and the western coast of South America.

The Peruvian Bark was known in Europe so early as 1640, on account of its having cured the Countess of Chinchon of a fever. We are ignorant of its early history, and how the Spaniards in Peru became acquainted with its virtues; but the Jesuits secretly conveyed it from Peru to Spain, hence it was called the Jesuits' Bark. Little was further known of it until the time of La Condamine, who visited Peru in 1738, and after whom Humboldt and Bonpland named the plant the *Cinchona Condaminea*. It was long supposed that only one species existed; a vast number, however, have been discovered, all of which possess medicinal properties, though varying much, both according to their species and the locality of their growth. It has been distinguished in our Pharmacopœias by its colour. The names of only three are now retained—*Cinchona flava*, *C. pallida*, and *C. rubra*.

The Yellow Bark of Calisaya contains a fatty matter, cinchonic red, a yellow colouring-matter, Tannin or soluble red colouring-matter, Starch, Lignin, Kinate of Lime, and *Kinate of Quinia, with a comparatively small proportion of Kinate of Cinchonia.*

The Pale Bark of Loxa (*C. Condaminea*) contains the fatty matter, the insoluble red colouring, the yellow colouring, Tannin, Gum, Starch, Lignin, Kinate of Lime, *Kinate of Cinchonia, with a very minute portion of Kinate of Quinia.*

Red Bark contains the fatty matter, a large quantity of the cinchonic red, the yellow colouring-matter, Tannin, Starch, Lignin, Kinate of Lime, and *a large proportion both of Kinate of Quinia and Kinate of Cinchonia.*

Medicinal Properties.

Cinchona Bark is a decided tonic, with some degree of astringency. It is especially useful in fevers of a remittent and intermittent character, when it should be given, in full doses, shortly before the cold stage. It has been found highly beneficial in many chronic cases, although intermissions do not occur, chronic and pulmonary catarrh, chronic diarrhœa, and in every case of direct debility. It is the most valuable remedy in neuralgia, and one of the most reliable medicines to relieve erysipelas in convalescence from acute diseases. The Pale Bark appears to be best suited to commence with when the stomach is weak and irritable, containing chiefly Quinidine and Cinchonine. The Yellow, however, is a more reliable tonic when the stomach will bear its use. The Red Bark, containing both Cinchonine and Quinine, has been thought, by Dr. Rigby, to be on the whole the most serviceable.

CINCHONA FLAVA.

YELLOW CINCHONA BARK.

The bark of the *Cinchona Calisaya*, collected in Bolivia and Southern Peru.

It yields 3 to 3½ per cent. of Sulphate of Quinine.

The "Monopoly" Bark is most valued, and should be procured if possible. There are several kinds of Yellow Bark which are of an inferior kind. It would be well therefore to try them by the Pharmacopœia test, which is as follows:—

Test.—Boil 100 grains of the Bark, reduced to very fine powder, for a quarter of an hour, in 1 fluid ounce of distilled water, acidulated with 10 minims of Hydrochloric Acid, and allow it to macerate for twenty-four hours. Transfer the whole to a small displacement tube, and after the fluid has ceased to percolate, add at intervals about 1½ ounce of similarly acidulated water, or add until the fluid which passes through is free from colour. Add to the percolated fluid Solution of Subacetate of Lead until the whole of the colouring matter has been removed, taking care that the fluid remains acid in reaction. Filter and wash with a little Distilled Water. To the filtrate add about 35 grains of Caustic Potash, or as much as will cause the precipitate which is at first formed to be nearly redissolved, and afterwards 6 fluid drachms of pure Ether. Then shake briskly, and, having removed the Ether, repeat the process twice with 3 fluid drachms of Ether, or until a drop of the Ether employed leaves, on evaporation, scarcely any perceptible residue. Lastly, evaporate the mixed ethereal solutions in a capsule. The residue, which consists of nearly pure Quinia, when dry, should weigh not less than 2 grains and should be readily soluble in dilute Sulphuric Acid.

Preparations.

DECOCTUM.

Yellow Cinchona Bark, in coarse powder, 1; Distilled Water, 20: boil ten minutes; when cold, strain and pour on the marc sufficient water to make up 16.

(Lond. 1⅝ to 16, Edin. 1 to 16, when finished; not in Dub.; Belg. 1 to 10; U. S. 1 to 16.)

The decoction thus made extracts only half the active principle of the Bark.

Dose.—1 to 2 oz.

EXTRACTUM LIQUIDUM.

Yellow Cinchona Bark, in coarse powder, 16; Distilled Water, a sufficiency; Rectified Spirit, 1: macerate in water for twenty-four hours, then percolate to exhaustion, evaporate to 3, filter, cool, and add the spirit. Sp. g. 1·100.

4 parts of this extract are equal to 1 of Bark.

(Same as Infusum Cinchonæ Spissatum, Lond.; U. S. ⅛ the strength; not in others.) An excellent preparation.

Dose.—10 to 15 minims.

INFUSUM.

Yellow Cinchona Bark, in coarse powder, 1; boiling Distilled Water, 20: infuse two hours, and filter.

(Same as Lond. and Edin.; not in Dub.; U. S. with Acid; Fr. with Liquorice.)

Dose.—1 to 2 oz.

TINCTURA.

Yellow Cinchona Bark, in coarse powder, 4; Proof Spirit, 20: macerate forty-eight hours with 15 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit, and when it ceases to drop, press, and wash the marc with spirit to make 20.

(Same as Lond. Edin. U. S. and Fr.; not in Dub.; Austr. 1 to 7; Belg. and Pr. 1 to 6.)

Dose.—1 to 2 drms.

QUINIÆ SULPHAS.—*See* QUINIÆ SULPHAS.

CINCHONA PALLIDA.

PALE CINCHONA BARK.

The bark of the *Cinchona Condaminea*, collected about Loxa, in Ecuador.

Yields ·57 per cent. of Quinidia and ·6 per cent. of Cinchonia.

Test.—200 grains of the bark treated in the manner directed in the test for Yellow Cinchona Bark, with the substitution of Chloroform for Ether, should yield not less than 2 grains of alkaloids; chiefly Cinchonia and Quinidia, which are dissolved by Chloroform; Ether dissolving only Quinia.

Preparation.

TINCTURA COMPOSITA.

Pale Cinchona Bark, in coarse powder, 4; Bitter Orange Peel, cut small and bruised, 2; Serpentary, bruised, 1; Saffron, $\frac{1}{4}$; Cochineal, $\frac{1}{8}$; Proof Spirit, 40: macerate forty-eight hours with 30 of spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remainder of the spirit; when it ceases to drop, press, and wash the marc with spirit to make up 40.

(Same as Lond. Edin. Dub. U. S. and Belg.)

CINCHONA RUBRA.

RED CINCHONA BARK.

The bark of the *Cinchona succirubra*, collected on the western slopes of Chimborazo.

Red Bark yields 2 per cent. of Sulphate of Quinia and 1 per cent. of Sulphate of Cinchonia.

Test.—100 grains of the bark, treated in the manner directed in the test for Yellow Cinchona Bark with the substitution of Chloroform for Ether, yield not less than 2 grains of alkaloids—Chloroform dissolves all the alkaloids of Cinchona Bark.

CINNAMOMUM.

CINNAMON.

The inner bark of shoots from the truncated stock of the *Cinnamomum Zeylanicum*, imported from Ceylon, and distinguished in commerce as Ceylon Cinnamon.

Medicinal Properties.

Warm and cordial to the stomach, carminative and astringent, chiefly used as an adjuvant to other medicines. Often employed in diarrhœa, with chalk. Efficacious in internal hæmorrhage.

Dose of the powder, 10 to 20 grs.

Contained in Tinctura Lavandulæ Comp.

Preparations.

AQUA.

Cinnamon, bruised, 1; Water, 16; distil 8.

(Same as Lond. and Edin. finished 1 in 8; Dub. made with essence; U. S. Pr. and Belg. finished, 1 in 10; Austr. 1 in 6.)

OLEUM.

The Distilled Oil imported. Yellowish when recent, gradually becoming red.

Dose.—1 to 4 minims in pill, sugar, or emulsion.

Possesses the carminative qualities of Cinnamon without its astringency.

PULVIS AROMATICUS.

Cinnamon, 4; Nutmeg, 3; Saffron, 3; Cloves, 1½. Cardamoms, free from capsules, 1; Refined Sugar, 25, all in fine powder: mix.

Dose.—½ to 1 drm.

A substitute for Pulvis Cinnamomi Compositus, but containing Saffron, Cloves, and Nutmeg, and is the same as the Lond. Confectio Aromatica, minus the Chalk.

TINCTURA.

Cinnamon, in coarse powder, 1; Proof Spirit, 8; macerate forty-eight hours with 6 of spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, press, and wash the marc with spirit to make up 8.

Dose.—1 to 2 drms.

(Weaker by ¼ than Lond. and Edin.; not in Dub.; U. S. 1 to 10; Belg. Austr. 1 to 6; Pr. 1 to 8.)

COCCULUS.

COCCULUS INDICUS.

The fruit of the *Anamirta Cocculus*, produced in Malabar and the Eastern Archipelago.

Test.—The seeds should fill at least two-thirds of the shell.

Medicinal Properties.

Acrid, narcotic; never given internally.

Preparations.

UNGUENTUM.

Seeds of *Cocculus Indicus*, well bruised, 1; Prepared Lard, $5\frac{1}{2}$: mix.

(Same as Edin.; not in others.)

One of the best applications for ringworm on the scalp. It should be applied night and morning, and washed away with soap-and-water at least once a day. (Dr. Christison.)

COCCUS.

COCHINEAL.

The female insect, *Coccus Cacti*, dried; reared in Mexico and Teneriffe.

Medical Properties.

Anodyne, chiefly given in whooping-cough. See below.

Dose.—$\frac{1}{3}$ gr. three times a day.

Preparation.

TINCTURA.

Cochineal, in powder, 1; Proof Spirit, 8: macerate seven days; strain, and wash the marc with spirit to make up 8.

(Dub. 1 in 10; not in others.)

Dose.—20 to 30 minims twice a day. (Used for colouring medicines.)

Not Officinal.

Mixture for Whooping-Cough.—Cochineal, 10 grs.; Subcarbonate of Potash, 20 grs.; Sugar, $\frac{1}{4}$ oz.; Water, 4 oz.: rub together, and strain.

Dose.—$\frac{1}{4}$ teaspoonful four times a day for a child one year old; $\frac{1}{2}$ teaspoonful two years; 1 teaspoonful four years.

Boiled apples in milk given for the food.

COLCHICI CORMUS.

COLCHICUM CORM.

The fresh corm or bulb, collected about the end of June, stripped of its coats, sliced transversely, and dried at a temperature not exceeding 150° F.

Test.—Best tested by its bitterness.

Medicinal Properties.

Produces increased action of some of the secreting organs; the action of the skin is also increased; the action of the heart diminished. Employed chiefly in gout, possessing a power of controlling the pain and inflammation. Affords relief in acute rheumatism and other inflammatory affections. It has also been used in dropsy.

Dose of the powder, 2 to 8 grs. every four or six hours.

Preparations.

EXTRACTUM.

The expressed juice of fresh Colchicum Corms, cleared of deposit, strained, and evaporated to a proper consistence at a temperature of 160° F.

100 pounds of Corms yield 4 pounds of Extract.

Dose.—1 to 2 grs.

(Same as Lond.; not in others.)

EXTRACTUM ACETICUM.

As above, adding Acetic Acid, 1, to Crushed Corms, previously peeled, 18½.

(Same as Lond. and Edin., but without the starch; Dub. and U. S. made of Dried Corm; not in others.)

100 pounds of Corms yield 5½ pounds of Extract.

Dose.—1 to 2 grs., in pill.

Frequently prescribed with Dover's Powder to relieve painful gout.

VINUM.

Colchicum Corm, dried and sliced, 4; Sherry, 20: macerate seven days, and strain.

(Same as Lond. and Edin.; U. S. 8 to 20; not in others.)

Dose.—30 to 60 minims.

COLCHICI SEMEN.

COLCHICUM SEED.

The seed fully ripe.

Medical Properties.

As the bulb, but considered to be superior both in certainty of effect and in mildness of operation.

Preparation.

TINCTURA.

Colchicum Seed, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remainder of the spirit; when it ceases to drop, wash the marc with spirit to make up 8.

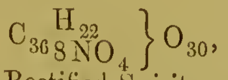
(Same as Lond. Edin. and Dub.; Belg. 1 in 6; Austr. and U.S. 1 in 7; not in Fr. Pr.)

Dose.—20 to 30 minims.

Tinctura Colchici Composita, Lond., made with Aromatic Spirit of Ammonia, is not now officinal.

COLLODIUM.

COLLODION.

Pyroxylin,  $C_{36}\left.\begin{matrix}H_{22}\\ 8NO_4\end{matrix}\right\}O_{30}$, dissolved in Ether, mixed with one-third of its volume in Rectified Spirit.

The Pyroxylin as made with Nitric Acid sp. g. 1·500 is explosive, and not soluble; but if made with Nitric Acid sp. g. 1·420, it is then soluble as above described.—*See* PYROXYLIN.

Pyroxylin, 1; Ether, 36; Rectified Spirit, 12: mix the Ether and Spirit, then add the Pyroxiline. In a few days decant the clear solution.

(U. S. Pyroxylin, 1; Ether, 28; Rectified Spirit, 4. Belg. Pyroxylin, 3; Ether, 89; Rectified Spirit, 8.)

Test.—Colourless and highly inflammable, with ethereal odour; it dries rapidly upon exposure to the air, and leaves a thin transparent film, insoluble in Water or Rectified Spirit.

Medicinal Properties.

Chiefly used for coating diseased or wounded parts with a protecting film. Applied to erysipelas when caused by external injury, such as wounds, etc. Applied also to burns, ulcers, and abrasions of the skin.

Not Officinal.

A very pliable collodion may be made of 30 parts of Collodion, 12 of Venice Turpentine, and 6 of Castor Oil.

COLOCYNTHIS.

COLOCYNTH.

The dried and decorticated fruit of the *Citrullus Colocynthis*, freed from the seeds; imported chiefly from Smyrna, Trieste, France, and Spain.

Medicinal Properties.

It is a powerful drastic, hydragogue cathartic, dangerous in large doses.

Dose.—5 to 10 grs. Not often prescribed alone, generally in combination as in Pil. Coloc. Co.

Preparations.

EXTRACTUM COMPOSITUM.

Colocynth, free from seeds, 6; Extract of Socotrine Aloes, 12; Scammony, or Resin of Scammony, in powder, 4; Hard Soap, in powder, 3; Cardamoms, freed from the capsules, in fine powder, 1; Proof Spirit, 160: macerate the Colocynth in the spirit for four days; press out the tincture, and add to it the Extract of Aloes, the Soap, and the Scammony. Distil off the spirit, and evaporate the residue by water bath to a pilular consistence, adding the Cardamoms towards the end of the process.

It is peculiar to Lond., and was called Pil. Coloc. Comp. in the last edition, but in former editions by the above name.

Dose.—4 to 8 grs.

PILULA COMPOSITA.

Colocynth in powder, 1; Barbadoes Aloes, in powder, 2; Scammony, in powder, 2; Sulphate of Potash, in powder, $\frac{1}{4}$; Oil of Cloves, $\frac{1}{4}$; Distilled Water, a sufficiency: mix. Dr. Gregory's favourite pill.

(Not in Lond.; same as Edin. and contains twice as much Scammony as Dub.)

Barbadoes Aloes are now used instead of Hepatic or Socotrine.

Dose.—5 to 10 grs.

PILULA COLOCYNTHIDIS ET HYOSCYAMI.

Colocynth, in powder, 1; Barbadoes Aloes, in powder, 2; Scammony, in powder, 2; Sulphate of Potash, in powder, $\frac{1}{4}$; Oil of Cloves, $\frac{1}{4}$; Extract of Hyoscyamus, 3; Distilled Water, a sufficiency: mix.

Dose.—5 to 10 grs.

CONFECTIONES.

CONFECTIONS.

The following Confections, which were in previous Pharmacopœias, are now omitted:—

Confectio Amygdalæ (now called *Pulvis Amygdalæ Compositus*), Confectio Aromatica (now *Pulvis Cretæ Aromaticus*), Confectio Aurantii, Confectio Cassiæ, Confectio Catechu, Confectio Opii, Confectio Rutæ.

The following are now contained in the British Pharmacopœia, the formulæ for which will be found in this volume under the names of the substances from which they are prepared:—

CONFECTIO PIPERIS. Same strength as Lond. and Edin., but contains Caraway instead of Elecampane and Fennel.

CONFECTIO ROSÆ CANINÆ.

CONFECTIO ROSÆ GALLICÆ.

CONFECTIO SCAMMONII. Same as Dub. Dose, $\frac{1}{2}$ to 1 drm.

CONFECTIO SENNÆ. Same strength as Lond. Edin. and Dub., but the ingredients differ in their condition. Dose 1 to 3 drms.

CONFECTIO SULPHURIS. Dub. modified. Dose, 1 to 3 drms.

CONFECTIO TEREBINTHINÆ. Dub. Dose, 2 to 4 oz. for adults; 1 oz. for children.

CONIUM.

HEMLOCK.

The fresh leaves and branches of the *Conium maculatum*, gathered when the fruit begins to form, and the leaves dried in the sun at a temperature not exceeding 120° F.

Test.—The leaf rubbed with Caustic Potash gives out strongly the odour of Conia.

Medicinal Properties.

Powerfully narcotic; anodyne, antispasmodic, and deobstruent. Used in chronic enlargement of the liver, chronic rheumatism, syphilis, neuralgic affections; allays the cough in bronchitic affections, pertussis, and phthisis. May be applied externally to ease pain in the form of a cataplasm.

Preparations.

CATAPLASMA.

Hemlock Leaf, in powder, 1; Linseed Meal, 3; boiling Water, 10: mix the ingredients and add them to the water gradually, constantly stirring.

(Only in Lond. and with Extract.)

EXTRACTUM.

Inspissated juice of the fresh plant. 100 lb. plant yield 50 lb. juice=5½ lb. extract; 100 lb. leaves, when dried, weigh 21 lb.

(Same as Lond. Edin. Dub. and U. S.; Pr. from fresh plant, with spirit.)

Dose.—5 to 10 grs.

SUCCUS.

Express the juice from bruised fresh leaves; to every 3 measures add 1 of Rectified Spirit. Filter after seven days.

A new preparation.

Dose.—30 to 60 minims.

CONII FRUCTUS.

HEMLOCK FRUIT.

The ripe fruit dried.

Medicinal Properties.

Narcotic and somewhat sedative to the circulation.

Preparation.

TINCTURA.

Hemlock Fruit, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 8.

Dose.—½ to 1 drm.

A new preparation.

COPAIBA.

COPAIVA.

The Oleo-Resin obtained by incision from the trunk of the *Copaifera multijuga*, chiefly from the province of Pará in Brazil.

Solubility, entirely in Rectified Spirit, Ether, and the fixed and volatile oils; insoluble in water.

Test.—Sp. g. ·950 to 1·000. Dissolves one-fourth of its weight of Carbonate of Magnesia by the aid of heat, and remains transparent.

Dose.—20 minims to 1 drm. three times a day.

Medicinal Properties.

Stimulant. Acts upon the mucous membrane, more particularly on that of the genito-urinary organs. Used in gonorrhœa and gleet. Useful in chronic bronchitis when there is excessive mucous secretion.

To be avoided in febrile states of the system.

Given floating on Aromatic Water, or mixed in Spirit of Nitric Ether. A less disagreeable form is that of emulsion, prepared by rubbing the Copaiba first with mucilage, or the yolk of an egg and sugar, and then with some aromatic water.

Preparation.

OLEUM.

The Distilled Oil. Colourless, or pale yellow.

(Lond. Edin. ; not in Dub.)

Dose.—15 to 60 minims.

Both Copaiba and the Oil can be rendered emulsive by trituration with mucilage. 1¼ oz. of mucilage should be used for every ounce of Copaiba, and either Cinnamon or Peppermint Water, with Tinct. of Orange or Ginger, covers the unpleasant taste. They are sometimes put into capsules.

CORIANDRUM.

CORIANDER.

The ripe fruit of the *Coriandrum sativum* dried; cultivated in Britain.

Medicinal Properties.

Aromatic. Used in medicines as an adjuvant to render them more palatable, and prevent griping.

Dose.—20 to 60 grs.

Contained in Confectio Sennæ, Infusum Gentianæ Comp., Tinctura Rhei.

Preparation.

OLEUM.

The Distilled Oil. 1 lb. of seeds yields about 42 grs. of oil.

Contained in Syrupus Sennæ.

CREASOTUM.

CREASOTE.

$C_{28}H_{16}O_4$.

A product of the distillation of Wood Tar.

Solubility, sparingly in water; freely in Alcohol, Ether, and Acetic Acid.

Test.—Sp. g. 1·065. A slip of deal dipped into it, and afterwards into Hydrochloric Acid, and then allowed to dry in the air, acquires a greenish-blue colour. Dropped on white filtering-paper, and exposed to a heat of 212° F., it leaves no translucent stain. It coagulates Albumen.

Medicinal Properties.

Irritant, narcotic, styptic, antiseptic, and escharotic. Used internally for chronic gonorrhœa and gleet, for arresting nausea in hysteria and pregnancy. It has been used with advantage in malignant cholera and cholera infantum. Externally to eruptions of a scaly character, to burns and chilblains. Erysipelas of the face, with swelling and pain, or toothache when depending on caries, is relieved by its application.

Dose.—1 to 2 minims, diluted with weak mucilage, ½ oz. to each minim or in a pill with crumb of bread.

When prescribed in pills with Oxide of Silver, the mass will take fire unless the oxide be first mixed with Liquorice powder.

Preparations.

MISTURA.

Creasote, 16 minims; Glacial Acetic Acid, 16 minims; Spirit of Juniper, ½ drm.; Syrup, 1 oz.; Distilled Water, 15 oz.: mix.

A good mode of administering Creasote, its unpleasant taste being concealed by the Juniper.

(Same as Edin.; not in Lond. and Dub.; not in others.)

Dose.—1 to 2 oz.

UNGUENTUM.

Creasote, 1; Simple Ointment, 8: mix.

(Lond. Edin. Dub.; Belg. half the strength; not in others.)

Employed in mild cases of ringworm.

Not Officinal.

Liquor Carbonis Detergens.—An alcoholic solution of Coal Tar as obtained from the gas works. It is almost black, smells strongly of Naphthaline, and is of light specific gravity. Prescribed by Dr. Startin to be used externally in skin diseases.

Inhalatio.—Creasote, 6 minims; Water ½ oz.

CRETA PRÆPARATA.

PREPARED CHALK.

Carbonate of Lime, CaO,CO_2, nearly pure.

Solubility: almost entirely in dilute Hydrochloric Acid (provided it contains no Sulphate of Lime or Silica), giving off small bubbles of Carbonic Acid. Insoluble in water.

Test.—The salt formed by dissolving the Chalk in Hydrochloric Acid, if rendered neutral by evaporation to dryness and redissolved in water, gives only a very scanty precipitate on the addition of saccharated Solution of Lime. Absence of Phosphate.

Medicinal Properties.

An excellent antacid. Combined with astringents and aromatics, it is used in diarrhœa accompanied with acidity. One of the best antidotes for Oxalic Acid. Has been recommended in rachitis and in scrofulous affections. Used externally to burns and ulcers.

Prescribed in powder or suspended in mucilage.

Dose.—10 to 100 grs.

Preparations.

HYDRARGYRUM CUM CRETA.—*See* HYDRARGYRUM.

MISTURA.
Prepared Chalk, 1; Gum Arabic, in powder, 1; Syrup, 2; Cinnamon Water, 30.

(Same as Dub.; Lond. 1 in 40; Edin. 1 in 36; U. S. 1 in 16.)

Dose.—1 to 2 oz.

Care should be taken to use the *Prepared* Chalk, and not the Precipitated Chalk, as the crystalline property of the latter is said to occasion irritation of the bowels.

PULVIS CRETÆ AROMATICUS.
Prepared Chalk, 1; Aromatic Powder, 3: mix.

A new preparation.

(Similar to Lond. Confectio Aromatica.)

Dose.—30 to 60 grs.

Not Officinal.

Cholera Mixture.—Aromatic Powder, 3 drms.; Tincture of Catechu, 10 drms.; Compound Tincture of Cardamoms, 6 drms.; Tincture of Opium, 1 drm.; Chalk Mixture to make 20 oz.

Dose.—1 oz.

This mixture was proposed by the Board of Health during the prevalence of cholera, and is useful in all cases of diarrhœa.

CROCUS.

SAFFRON.

The stigma and part of the style of the *Crocus sativus* dried; imported from Spain, France, and Naples.

Test.—When rubbed on the moistened finger it tinges it an intense orange-yellow. Pressed between the folds of filtering-paper it leaves an oily stain. Concentrated Sulphuric Acid instantly changes its colour to indigo-blue.

Medicinal Properties.

An exhilarating stimulant. Useful for giving colour and flavour to official preparations.

Contained in Decoct. Aloes Comp.; Pil. Aloes et Myrrhæ; Tinct. Rhei; Tinct. Cinch. Comp.

Preparation.

PULVIS AROMATICUS.—*See* CINNAMOMUM.

TINCTURA
Saffron, 1; Proof Spirit, 20: macerate forty-eight hours with 15 of the spirit, agitating occasionally, pack in a percolator, let it drain, and then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 20.

(Same as Edin. and Dub.; not in Lond.; Belg. 1 to 6; Austr. 1 to 8; not in Fr. Pr. and U. S.)

Dose.—½ to 1 drm.

CROTONIS OLEUM.

CROTON OIL.

Syn. OLEUM TIGLII, *U. S.*

The oil expressed from the seeds of the *Croton Tiglium*, a native of Hindostan, Ceylon, and the Moluccas. It may be separated by decoction in Water, or by the action of Ether, which dissolves the oil and leaves it behind on evaporation.

Solubility: wholly in Ether, Oil of Turpentine, and Olive Oil.

Test.—Agitated with its own volume in Alcohol and gently heated it forms a clear solution, from which about three-fourths of the oil separate on cooling.

Medicinal Properties.

A powerful hydragogue purgative, acting with great rapidity. In cases of obstinate constipation. Applied externally in rheumatism, gout, neuralgia, glandular and other indolent swellings, and in laryngeal and pulmonary diseases.

Dose.—$\frac{1}{3}$ to 1 drop.

In pill with Crumb of Bread, or in combination with Comp. Ext. of Colocynth.

Preparation.

LINIMENTUM.

Croton Oil, 1; Olive Oil, 7: mix.

A new preparation.

It is scarcely strong enough to produce pustular eruptions in all cases.

CUBEBA.

CUBEBS.

The unripe fruit of the *Cubeba officinalis*, dried, from Java.

Medicinal Properties.

Gently stimulant, with special direction to the urinary organs. Given in gonorrhœa, most safely when the inflammation is confined to the mucous membrane of the urethra.

Prescribed in powder.

Dose.—For gonorrhœa 1 to 3 drms., in moistened wafer-paper, three or four times a day. In other cases the dose may be reduced to 10 grs.

Preparation.

OLEUM CUBEBÆ.

The Distilled Oil.

A new preparation.

(Not in other Pharmacopœias.)

Dose.—10 to 12 drops, suspended in Water by means of Mucilage and Sugar.

CUPRI SULPHAS.

SULPHATE OF COPPER.

CuO,SO_3+5HO; eq. 124·6.

In oblique prismatic crystals of a clear blue colour. Sp. g. 2·104.

Solubility: in Water, 1 in 3. Whatever Ammonia throws down from this solution is redissolved by an excess of the precipitant.

(In all the Pharmacopœias.)

Test.—An aqueous solution of the salt to which twice its volume of Solution of Chlorine has been added, when treated with an excess of Solution of Ammonia, gives a sapphire-blue solution, leaving nothing undissolved. Indicating absence of Iron and other impurities.

Medicinal Properties.

Astringent, tonic, and emetic. Given in epilepsy and in spasmodic diseases. Recommended also in croup and in chronic diarrhœa. The most reliable emetic in cases of narcotic poisoning. Externally, as a stimulant to ulcers, as an escharotic for warts, etc., and a styptic for bleeding surfaces. It is also used in various affections of the eyes when astringent applications are required.

Dose.—½ gr. gradually increased to 5 grs. three times a day, in pill, as a tonic for epilepsy; 10 grs. as a prompt emetic in cases of narcotic poisoning. Externally, for lotions, in proportions from 2 to 4 grs. to 1 oz. ('London Hospital Pharmacopœias'); also 8 grs. to 1 oz. for prurigo genitalium.

CUSPARIA.

CUSPARIA BARK; ANGUSTURA BARK.

The bark of the *Galipea Cusparia*, from tropical South America.

Test.—The inner surface touched with Nitric Acid does not become blood-red.

This test is to guard against the Strychnos Bark being mistaken for the Cusparia; the former contains Brucia, which becomes red by contact with Nitric Acid.

Medicinal Properties.

A stimulant tonic. Used in malignant bilious fever, intermittent fever, dysentery, and dropsy. Probably more effective in warm than temperate climates. Aromatics are generally combined with it, to prevent nausea.

Preparation.

INFUSUM.

Cusparia, in coarse powder, 1; Distilled Water at 120° F., 20: infuse two hours and strain.

(Not in Dub.; Lond. and Edin. 1 to 27; U. S. 1 to 34.)

Dose.—1 to 2 drms.

CUSSO.

KOUSSO.

The flower of the *Brayera anthelmintica*, from Abyssinia.

Medicinal Properties.

Anthelmintic. Especially for tænia.

Preparation.

INFUSUM.

Kousso, in coarse powder, 1; boiling Distilled Water, 16: infuse two hours, without straining.

Dose.—4 oz.

DECOCTA.

DECOCTIONS.

The Decoctions which were in former Pharmacopœias and omitted in the British, are:—Decoctum Chimaphilæ, Lond. and Dub.; Cinchonæ Pallidæ, Lond. Edin. and Dub.; Cinchonæ Rubræ, Edin. and Dub.; Cinchonæ Cinereæ, Edin.; Cydonii, Lond.; Dulcamaræ, Lond. Edin. and Dub.; Gallæ, Lond.; Granati, Lond.; Guaiaci, Edin.; Hordei Compositum, Lond. and Edin.; Lini Compositum, Dub.; Mezerei, Edin.; Myrrhæ, Dub.; Pyrolæ (vel Chimaphilæ), Lond. and Dub.; Scoparii Compositum, Lond. and Edin.; Senegæ, Lond.; Tormentillæ, Lond.; Ulmi, Lond.; Uvæ Ursi, Lond. and Dub.

No new ones are introduced.

The following are the Decoctions of the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared:—

DECOCTUM ALOES COMPOSITUM.
DECOCTUM AMYLI.—*See* MUCILAGO.
DECOCTUM CETRARIÆ.
DECOCTUM CINCHONÆ FLAVÆ.
DECOCTUM GRANATI RADICIS.
DECOCTUM HÆMATOXYLI.
DECOCTUM HORDEI.
DECOCTUM PAPAVERIS.
DECOCTUM PAREIRÆ.
DECOCTUM QUERCUS.
DECOCTUM SARSÆ.
DECOCTUM SARSÆ COMPOSITUM
DECOCTUM SCOPARII.
DECOCTUM TARAXACI.

DIGITALINUM.

DIGITALIN.

The active principle obtained from Digitalis.

Solubility: readily in Spirit; dissolves in Acids; almost insoluble in Water and Ether.

Test.—Leaves no residue when burnt with free access of air.

Dose.—$\frac{1}{50}$ of a gr.

This preparation is too dangerous for internal use, and will probably not be retained in the next edition of the Pharmacopœia.

DIGITALIS.

DIGITALIS.

The dried leaf of the *Digitalis purpurea,* gathered when about two-thirds of the flowers are expanded.

Medicinal Properties.

Sedative and diuretic. Much used in various cardiac affections. It is cumulative in action, and requires caution. Externally, a strong infusion may be applied for dropsy.

Preparations.

DIGITALINUM.—*See* DIGITALINUM.

INFUSUM.

Digitalis, dried, 30 grs.; boiling Distilled Water, 10 oz.: infuse one hour and strain.

(Same strength as Lond.; half that of Edin. and Dub.)

Dose.—½ to 1 oz.

TINCTURA.

Digitalis, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of spirit, agitating occasionally, pack in a percolator and let it drain, then pour on the remaining spirit; when it ceases to drop, press and wash the marc to make up 8.

(Same as Dub.; Lond. and Edin. 1 to 10; Fr. 1 to 5; Belg. 1 to 6; Pr. 1 to 7; Austr. 1 to 8.)

Dose.—As a diuretic, 20 to 30 minims.

DULCAMARA.

DULCAMARA.

The young branches of the *Solanum Dulcamara,* dried, from plants which have shed their leaves. Indigenous.

Medicinal Properties.

Narcotic. Increases the secretions, particularly of the kidneys and skin. It has a peculiar action on the skin; during its use it imparts a dark purple colour to the face and hands. Used in cutaneous eruptions, chiefly of a scaly character, as lepra, psoriasis, and pityriasis. Also in chronic rheumatism and catarrh. A decoction is applied also externally in skin diseases at the same time it is used internally.

Preparation.

INFUSUM.

Dulcamara, bruised, 1; boiling Distilled Water, 10: infuse one hour, and strain.

A new preparation.

The *decoction* was in previous Pharmacopœias.

Dose.—1 to 2 oz.

ELATERIUM.

ELATERIUM.

A sediment from the expressed juice of the fruit of the *Ecbalium officinarum.*

Test.—Does not effervesce with acids; yields half its weight to boiling Rectified Spirits. This solution concentrated and added to warm Solution of Potash yields, on cooling, not less than 20 per cent. of Elaterine in colourless crystals. It is not injured by light.

Medicinal Properties.

A powerful hydragogue cathartic. Especially used in dropsical affections connected with cardiac or renal disease. Its administration in debilitated habits requires caution.

Dose.—To prevent its causing nausea it may be combined with Henbane, and is best given in small doses of $\frac{1}{12}$ to $\frac{1}{2}$ gr. till it operates.

ELEMI.

ELEMI.

A concrete resinous exudation, chiefly imported from Manilla.

Medicinal Properties.

Analogous to those of Turpentine. For external use only.

Preparation.

UNGUENTUM.

Elemi, 1; Simple Ointment, 4: melt and strain.

(Same as Dub.; Lond. 1 to 3; Austr. 1 in 12; Belg. and Pr. 1 in 3.)

To keep open issues and setons.

EMPLASTRA.

PLASTERS.

The following Emplastra of former Pharmacopœias are omitted from the British:—Emplastrum Ammoniaci, Lond. Edin. Dub.; Assafœtidæ, Edin.; Cantharidis Comp., Edin.; Cumini, Lond.; Potassii Iodidi, Lond.; Simplex, Edin.

The Emplastra of the British Pharmacopœia are as follows, the formulæ for which will be found under names of the drugs from which they are prepared:—

	Proportion of active ingredients in the mass	
EMPLASTRUM AMMONIACI CUM HYDRARGYRO	(Mercury)	1 in 5.
EMPLASTRUM BELLADONNÆ	(Extract)	1 in 2.
EMPLASTRUM CALEFACIENS	(Cantharides)	1 in 30.
EMPLASTRUM CANTHARIDIS	(Cantharides)	1 in 3.
EMPLASTRUM FERRI	(Peroxide of Iron)	1 in 11.
EMPLASTRUM GALBANI	(Galbanum)	1 in 11.
EMPLASTRUM HYDRARGYRI	(Mercury)	3 in 11.
EMPLASTRUM LITHARGYRI.		
EMPLASTRUM OPII	(Opium)	1 in 10.
EMPLASTRUM PICIS.		
EMPLASTRUM RESINÆ	(Resin) about	1 in 10.
EMPLASTRUM SAPONIS.		

ENEMATA.

ENEMAS.

Enema Colocynthidis is the only Enema of former Pharmacopœias that has been omitted. The following are the Enemas of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

ENEMA ALOES.
ENEMA ASSAFŒTIDÆ.
ENEMA MAGNESIÆ SULPHATIS. (Formerly Catharticum.)
ENEMA OPII.
ENEMA TABACI.
ENEMA TEREBINTHINÆ.

ERGOTA.

ERGOT.

The diseased seeds of the *Secale cereale.**

Test.—Yields its virtues to Water and Alcohol. The aqueous infusion has an acid reaction. It is precipitated by Acetate and Subacetate of Lead, Nitrate of Silver, and Tincture of Galls. With Iodine, does not show evidence of Starch.

In percolating the powder with Ether, more than one-third of its original weight in Oil is extracted.

Medicinal Properties.

Has a special tendency to action upon the uterus in parturition when that organ has not sufficient muscular power, the os, however, being sufficiently dilated. Employed in uterine hæmorrhage and floodings. It is of service also in pulmonary hæmorrhage. In amenorrhœa, if Iron is given for three weeks and the fourth week Ergot be given 15 minims three times a day, it rarely fails to bring on catamenia in young persons.

Preparations.

EXTRACTUM LIQUIDUM.

Ergot, in coarse powder, 16; Ether, 20; Distilled Water, 70; Rectified Spirit, 8. Shake the Ether in a bottle with half its bulk of the Water, and after separation decant the Ether. Place the Ergot in a percolator, and free it from oil by passing the washed Ether through it. Remove the marc, and digest in the remainder of the water at 160° F. for twelve hours. Press out the liquor and evaporate it to 9, and add the 8 of spirit. Filter, and make up the quantity to 16.

(Not in Lond. Edin. or Dub.; same as U. S.; Austr. has a solid extract.)

Dose.—15 to 30 minims.

INFUSUM.

Ergot, in coarse powder, 1; boiling Distilled Water, 40: infuse half an hour and strain.

Should be made fresh on each occasion.

Dose.—1 to 4 tablespoonfuls.

(Not in Lond. or Edin.; Dub. 1 to 36.)

TINCTURA.

Ergot, bruised, 1; Proof Spirit, 4: macerate forty-eight hours with 3 of the spirit, agitating occasionally, pack in a percolator, let it drain, then pour on the remaining spirit; when it ceases to drop, wash the marc with spirit to make up 4.

(Not in Lond. or Edin.; Dub. 1 to 5.)

Dose.—15 to 30 minims.

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* Ergot is common among grasses, and if it occurs in the pastures where cattle feed it is said to occasion dry gangrene, causing the cattle to lose their hoofs and horns.

EXTRACTA.

EXTRACTS.

The following Extracts, which were in former Pharmacopœias, are omitted in the British:—Cinchonæ Cordifoliæ, Lond. and Edin.; Cinchonæ Pallidæ, Lond. and Edin.; Cinchonæ Rubræ, Lond. and Edin.; Colocynthidis, Lond. and Edin.; Digitalis, Edin.; Lactucæ, Lond.; Papaveris, Lond. and Edin.; Pareiræ, Lond. and Edin.; Styracis, Edin.; Uvæ Ursi, Lond.

The following new Extracts are given in the British Pharmacopœia:—Belæ Liquidum, Calumbæ, Cinchonæ Flavæ Liquidum (formerly Infusum Cinchonæ Spissatum), Ergotæ Liquidum, Filicis Liquidum (formerly Oleum Filicis-Maris), Opii Liquidum, Pareiræ Liquidum, Quassiæ.

The following is a complete list of the Extracts of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

EXTRACTUM ACONITI (fresh herb).
EXTRACTUM ALOES BARBADENSIS.
EXTRACTUM ALOES SOCOTRINÆ.
EXTRACTUM ANTHEMIDIS (dried flowers).
EXTRACTUM BELÆ LIQUIDUM.
EXTRACTUM BELLADONNÆ (fresh herb).
EXTRACTUM CALUMBÆ (dried root).
EXTRACTUM CANNABIS INDICÆ (dried herb).
EXTRACTUM CINCHONÆ FLAVÆ LIQUIDUM.
EXTRACTUM COLCHICI (fresh corms).
EXTRACTUM COLCHICI ACETICUM (fresh corms).
EXTRACTUM COLOCYNTHIDIS COMPOSITUM.
EXTRACTUM CONII (fresh herb).
EXTRACTUM ERGOTÆ LIQUIDUM (dried Ergot)
EXTRACTUM FILICIS LIQUIDUM (dried rhizome).
EXTRACTUM GENTIANÆ (dried root).
EXTRACTUM GLYCYRRHIZÆ (dried root).
EXTRACTUM HÆMATOXYLI (chips).
EXTRACTUM HYOSCYAMI (fresh herb).
EXTRACTUM JALAPÆ (dried root).
EXTRACTUM KRAMERIÆ (dried root).
EXTRACTUM LUPULI (dried catkins).
EXTRACTUM NUCIS VOMICÆ (decorticated seeds).
EXTRACTUM OPII (Aquosum).
EXTRACTUM OPII LIQUIDUM (strength of Tinct. Opii).
EXTRACTUM PAREIRÆ LIQUIDUM (dried root).
EXTRACTUM QUASSIÆ (chips).
EXTRACTUM RHEI (dried root).
EXTRACTUM SARSÆ LIQUIDUM (root cut transversely).
EXTRACTUM STRAMONII (dried seeds).
EXTRACTUM TARAXACI (fresh root).

Extracts are to be found in Pharmacopœias of very early date, and they are highly satisfactory preparations, as they represent very completely the properties of the plant from which they are made. They are moreover, as a general rule, well adapted for pills,—a convenient form and least objectionable to the patient.

Although this class of preparations has been so long in use, many erroneous notions have prevailed as to the best mode of making them. All previous Pharmacopœias order the *leaves* only to be employed, under the idea that the properties of the plant were most highly developed in those organs. These leaves, again, were directed to be gathered for medicinal use before the flowering of the plant. The author, who has been occupied in this branch of pharmacy for thirty years, is entirely opposed to this plan, both as to the parts employed and the time of gathering. In a paper on "Preserved Juices," read at the Pharmaceutical Society in 1841,* he stated his opinion that the plant was in the highest state of perfection when fully one-third of the flowers were blown. The main object of the growth and inflorescence of a plant is the production of seed, and the whole vital power is concentrated about the period of inflorescence for this object, at this time, therefore, is the greatest perfection to be expected. That the production of the seed requires the whole vital energy of which the plant is capable may be seen in the fact that many plants (annuals) are unable to survive it.

In a more recent paper,† he has shown that the active power resides by no means exclusively in the leaves; on the contrary, an extract prepared from the tender stalks is the more powerful. The plant selected for experiment was Belladonna, because in this case extremely accurate results could be obtained by determining the relative action of the two extracts on the eye. In consequence of these experiments, the British Pharmacopœia has ordered the tender stalks as well as the leaves for making extracts from fresh plants.

The perfection of extracts made from fresh vegetables depends much on the attention given to them during their preparation and to the temperature at which they are made. The lower the temperature during evaporation, the better the extract, if the time be not protracted so long as to cause some chemical change. It should be borne in mind that evaporation goes on only half as rapidly at 150° as it does at 180°, and only half at 180° as it does at 212°. Constant agitation materially influences the rate of evaporation. When the atmosphere is very dry, extracts may be made without artificial heat.

FEL BOVINUM PURIFICATUM.

PURIFIED OX BILE.

Fresh Gall, 1; Rectified Spirit, 2: agitate, decant, and evaporate.

Solubility: soluble in Water and in Spirit. Insoluble in Ether.

Test.—Its watery solution gives no precipitate on the addition of Rectified Spirit.

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* 'Pharmaceutical Journal,' vol. i. 1841.

† 'Pharmaceutical Journal,' December, 1861.

Medicinal Properties.

Tonic and laxative. Used where there exists a deficiency of bile.

It is not desirable it should come in contact with the stomach, hence it is put into capsules or in covered pills; the latter usually preferred.

Dose.—2 grs.

Formerly the bile was evaporated without purification, and then the dose was much larger.

FERRUM.

IRON.

Fe; eq. 28.

The use of Iron in medicine is of great antiquity; it is said to have been the first mineral used internally, more than three thousand years ago.

Annealed Iron Wire is the purest we can get, and is ordered in the Pharmacopœia for making the various preparations. Iron Filings should by no means be trusted, as they are generally full of impurities.

The Oxidization of Iron is accelerated by the presence of Carbonic Acid in the air. Rust usually contains Ammonia. The solution of Protosulphate of Iron readily attracts Oxygen from the air, by which a portion of protoxide (FeO) is converted into a Sesquioxide of Iron, Fe_2O_3. Hydrosulphuret of Ammonia ($NH_3, 2HS$) occasions a black precipitate (FeS) when added to the solution. Caustic Potash or Ammonia produces a whitish precipitate (FeO, HO), which becomes greenish, and ultimately, by exposure to the air, reddish-brown ($Fe_2O_3, 3HO$). Ferrocyanide of Potassium causes a white or bluish-white precipitate, which, by exposure to the air, ultimately becomes blue. Ferridcyanide of Potassium occasions a dark-blue precipitate.

Medicinal Properties.

Metallic Iron would exert no action in the living system, were it not for the acid which it generally meets with in the stomach. It is given in the state of fine division, as in Ferrum Redactum. The Peroxide was formerly used in the shape of Ferrum Præcipitatum, but latterly the Saccharo-Carbonate of Iron, and the Citrate of Iron, have taken its place. The Phosphates are much used, and the Tincture of the Perchloride, formerly called Sesquichloride, is still a favourite and reliable preparation; and for children the old Vinum Ferri is much prescribed.

Of the preparations of Iron, some are astringent, and the astringent forms are pre-eminently tonic and peculiarly well fitted to improve the quality of the blood when impoverished from any cause. Hence they are useful in diseases characterized by debility, especially in anæmia, associated with or consequent upon inordinate discharges. The diseases in which they are usually employed are chronic anæmia, dyspepsia, when dependent on deficient energy of the digestive function, and neuralgia. They are contra-indicated in acute inflammatory diseases, producing, when injudiciously employed, headache, and other symptoms of an excited circulation.

The following are the preparations of Iron contained in the British Pharmacopœia:—

FERRI ARSENIAS.

ARSENIATE OF IRON.

Arseniate of Iron, $3FeO,AsO_5$, partially oxidated; eq. 274.

A tasteless amorphous powder, of a green colour.

Solubility: dissolves readily in Hydrochloric Acid; insoluble in water.

Test.—The solution in Hydrochloric Acid when diluted gives no precipitate with Chloride of Barium. 20 grains dissolved in an excess of Hydrochloric Acid diluted with water, continues to give a blue precipitate with the Ferridcyanide of Potassium, until at least 17 measures of the volumetric solution of Bichromate of Potash have been added: that is to say, it must contain sufficient Protoxide of Iron to reduce this quantity of Bichromate of Potash.

Medicinal Properties.

Administered internally in obstinate herpetic and scaly affections of the skin. Externally in cancerous affections, diluted with four times its weight of Phosphate of Iron, as a caustic application to cancerous ulcers. It is also used in lupus, elephantiasis, psoriasis, chronic eczema, and lichen. From its liability to be absorbed, its use requires great caution. An ointment may be made with twelve times its weight of simple cerate.

A new preparation.

In no other Pharmaceopœia.

Dose.—$\frac{1}{16}$ gr., gradually increased to 1 gr. in pill, three times daily.

FERRI CARBONAS SACCHARATA.

SACCHARATED CARBONATE OF IRON.

Carbonate of Iron, FeO,CO_2, mixed with Peroxide of Iron and Sugar, and forming at least 57 per cent. of the mixture.

Small coherent lumps of a grey-brown colour, with a sweet, very feeble, chalybeate taste.

Solubility: dissolves with effervescence in warm diluted Hydrochloric Acid.

(Lond. Edin. Dub. Belg.; not in others.)

Test.—Its solution in Hydrochloric Acid gives but a very slight precipitate with the Chloride of Barium. Indicating trace of Sulphate. 20 grains dissolved in excess of Hydrochloric Acid, and diluted with water, continue to give a blue precipitate with the Ferridcyanide of Potassium, until at least 33 measures of the volumetric solution of Bichromate of Potash have been added —that is to say, it must contain sufficient Protoxide of Iron to reduce this quantity of Bichromate of Potash.

Medicinal Properties.

An excellent chalybeate. Possesses the advantage of having nearly all the iron in it in the state of protoxide, and of being readily soluble in acids. Not astringent.

(Lond. Edin. Dub.; not in other Pharmacopœias.)

Dose.—5 to 30 grs.

Preparations.

MISTURA FERRI COMPOSITA.

Sulphate of Iron, 30 grs.; Carbonate of Potash, 25 grs.; Myrrh in powder, 60 grs.; Sugar, 60 grs.; Spirit of Nutmegs, 1 drm.; Rose Water, 8 oz.

Triturate the Myrrh and Carbonate of Potash with the Sugar, the Spirit of Nutmeg, and 7 ounces of the Rose Water, the latter being gradually added until a uniform mixture is obtained. To this add the Sulphate of Iron, previously dissolved in the remaining ounce of Rose Water, and enclose the mixture at once in a bottle, which should be tightly corked.

It becomes reddish-brown by keeping, if air is not excluded.

(Same as Dub. and similar to Lond. Edin. and U. S.; not in others.)

Dose.—1 to 2 oz. as a stimulating tonic.

PILULA FERRI CARBONATIS.

Saccharated Carbonate of Iron, 4; Confection of Roses, 1.

(Same as Edin.; intended to represent Pil. Ferri Comp. Lond.; not in Dub.)

Dose.—5 to 20 grs., as a tonic for delicate females and children.

FERRI ET AMMONIÆ CITRAS.

CITRATE OF IRON AND AMMONIA.

$(Fe_2O_3, NH_4O, HO, C_{12}H_5O_{11} + 2HO)$?

In thin transparent scales of a hyacinth-red colour with tinge of olive-green, slightly sweet and astringent in taste.

Soluble in water, 10 in 5; almost insoluble in Rectified Spirit.

Test.—Its solution in water, when acidulated with Hydrochloric Acid, gives a copious blue precipitate with the Ferrocyanide of Potassium—indicating Peroxide; but none with the Ferridcyanide—Absence of Protoxide. When incinerated with exposure to air, it leaves 26·5 per cent. of Peroxide of Iron.

Medicinal Properties.

As a blood restorer it is a very effectual salt, and it possesses scarcely any astringency: it may often be given when the stomach will not bear more astringent preparations of iron.

(Lond. Dub. and U. S.; not in others.)

Dose.—5 to 10 grs.

In prescribing the above Salt to be taken during effervescence care must be taken to put the Salt of Iron into the Citric Acid Solution, and not into the Bicarbonate of Potash Solution, because if it be put into the latter, Carbonic Acid will be given off and the bottle burst. Tincture of Orange is the best flavouring agent, but prescribers are in the habit of ordering this Salt in Tincture of Orange Peel alone, in which it will not dissolve, therefore the division into doses is impracticable. The addition of only a small quantity of water will make the solution perfect.

FERRI ET QUINIÆ CITRAS.

CITRATE OF IRON AND QUININE.

Citric Acid combined with Peroxide of Iron, Protoxide of Iron, and Quinia. Thin scales of a greenish golden-yellow colour, somewhat deliquescent, Brit. Ph. The process given, however, by the Brit. Ph. produces scales of a garnet colour.

Solubility in water, 10 in 5.

Test.—Taste bitter as well as chalybeate. When burned with exposure to air, it leaves a residue which yields nothing to water; 50 grains dissolved in an ounce of water, and treated with a slight excess of Ammonia, gives a white precipitate, which, when collected on a filter and dried, weighs 8 grains (Quinia). The precipitate is entirely soluble in pure Ether—indicating Absence of Quinidine and Cinchonine. When burned, leaves no residue, and when dissolved by the aid of an acid, forms a solution which, decolorized by a little purified animal charcoal, turns the plane of polarization strongly to the left; (Cinchonine turns to the right).

Medicinal Properties.

Given as a tonic in doses three times a day, either in solution or in the form of a pill.

(Not in Lond. Edin. Dub.; in U. S.)

A new preparation.

Dose.—5 to 10 grs.

FERRI IODIDUM.

IODIDE OF IRON.

$FeI + 4HO$.

Crystalline, green with a tinge of brown, inodorous, deliquescent.

Solubility in water, 1 in 1.

Test.—It dissolves almost entirely in water, leaving but a very small quantity of red sediment.

Medicinal Properties.

It combines the properties both of Iodine and Iron, and is a most valuable tonic in the treatment of scrofulous diseases in cachectic subjects requiring iron. It was first prepared for medicinal purposes by the author, who devised a mode of keeping the solution in water perfectly neutral at all times, by merely putting into it a coil of soft iron wire, reaching from the surface to the bottom. Dr. A. T. Thomson has the merit of first prescribing it.

N.B.—The proportion of Iron to Iodide is 1 to 4½.

Dose.—1 to 5 grs. in solution; the pill is rather a questionable mode of administering it.

Preparations.

PILULA.

Fine Iron Wire, 40 grs.; Iodine, 80 grs.; Refined Sugar in powder, 70 grs.; Liquorice Root in powder, 140 grs.; Distilled Water, 50 minims: agitate the Iron with the Iodine and the Water in a strong stoppered ounce phial, until the froth becomes white. Pour the fluid upon the Sugar in a mortar, triturate briskly, and gradually add the Liquorice.

3 grains contain 1 grain of Iodide. (In U. S.; not in others.)

SYRUPUS.

Iron Wire, 1; Iodine, 2; Refined Sugar, 28; Distilled Water, 13. Make a syrup with the sugar and 10 ounces of the water, and keep it hot. Put into a strong soda-water bottle, covered with a cloth, the iron wire, the iodine, and 3 ounces of water, shake them together until the froth of the mixture becomes white, filter whilst still hot into the syrup. The product should be made up by water to weigh 43 ounces or to measure 32 ounces. Sp. g. 1·385.

Each fluid drachm contains 5 grains. (Same as Lond. Edin. Dub. and U. S.; Austr. 1 drm. contains 7 grs.; Belg. 5 drms. contain 1 gr.; not in others.)

Note.—It should be kept in well-filled bottles, for if there be much air in the bottle, the surface of the Syrup is decomposed and tinged with Iodine.

FERRI OXIDUM MAGNETICUM.

MAGNETIC OXIDE OF IRON.

Syn. Ferri Oxidum Nigrum.

Peroxide of Iron, Fe_2O_3, with about 9 per cent. of Protoxide of Iron, FeO, and 22 of Water.

A dark greyish-black powder, strongly attracted by the magnet.

Solubility: it dissolves without effervescence in Hydrochloric Acid, diluted with half its bulk in water.

Test.—20 grains moistened with Nitric Acid and calcined at a low red-heat, leave 15·8 grains of the Peroxide of Iron; 20 grains dissolved in Hydrochloric Acid continue to give a blue precipitate with the Ferridcyanide of Potassium, until 8·3 measures of the volumetric solution of Bichromate of Potash have been added. That is to say, there should be sufficient protoxide present to reduce that quantity of bichromate.

Medicinal Properties.

In tic-douloureux and other neuralgic affections. Useful when it is desirable to continue the use of iron for a long time, or to give it in large doses.

Dose.—5 to 20 grs. twice or thrice daily in water.

This preparation was in great repute with Dr. Jephson, and is certainly more to be depended on than the Sesquioxide: it is the Ferroso-ferric Oxide of Berzelius, a compound of Protoxide and Sesquioxide of Iron.

FERRI PERCHLORIDI LIQUOR.

SOLUTION OF PERCHLORIDE OF IRON.

Perchloride of Iron, Fe_2Cl_3, in solution in water.

Solubility: miscible with water and alcohol in all proportions.

Test.—Sp. g. 1·338. A drachm diluted with 2 ounces of water, gives upon the addition of an excess of Solution of Ammonia, a reddish-brown precipitate, which when well washed and incinerated weighs 15·62 grains.

Iron Wire, 2 oz.; Hydrochloric Acid, 10 oz.; Nitric Acid, 6 drms.; Distilled Water, 7 oz. Dilute the Hydrochloric Acid with 5 ounces of the Water, and pour the mixture on the Iron Wire in successive portions, applying a gentle heat when the action becomes feeble, so that the whole of the metal may be dissolved. To the Nitric Acid add the two remaining ounces of Water, and having poured the mixture into the solution of Iron, evaporate the whole until the bulk is reduced to 10 ounces.

Liquor Ferri Perchloridi made by the process of the Pharmacopœia, has a sp. g. 1·395, is almost black, and contains both Protochloride of Iron and free Nitric Acid. When mixed with three times its volume of rectified spirit, as directed for making the tincture, a considerable deposit is soon produced. If the evaporation is pushed to 6 ounces instead of 10, as directed, complete oxidation takes place, but a large quantity of basic chloride is thrown down because there is not sufficient Hydrochloric Acid ordered to keep it in solution, and the Nitric Acid is not got rid of: this, by gradually acting upon the Alcohol, producing Ether, will cause the tincture to become turbid.

In order to have a successful result, the quantity of Hydrochloric Acid must be augmented to 13 ounces, and the solution should be evaporated to 5 ounces. The addition of 5 ounces of Water will then bring the bulk up to 10 ounces, as required by the Pharmacopœia, and the sp. g. will be 1·400. The Tincture made with this solution, as described in the formula, will remain bright, and have the specific gravity 0·992.

Medicinal Properties.

The Tincture of Iron has long been considered the most valuable of all the Iron preparations; it is given in diabetes, in passive hæmorrhage, and as a general tonic, having properties in common with the numerous Salts of Iron.

Preparation.

TINCTURA FERRI PERCHLORIDI.
Solution of Perchloride of Iron, 1; Rectified Spirit, 3: mix.

Sp. g. 0·992.

(Same strength as Lond. Edin. and U. S.; one-third of the strength of Tinct. Ferri Sesquichloridi, Dub.; Belg. from the Salt and only half strength; not in others.)

The best formula for making Tinct. Ferri Perchlor. from the Salt is the following: —Crystallized Perchloride of Iron, 8 oz.; Water, 3½ oz.: dissolve, and it will measure 8 oz.; then add Rectified Spirit, 24 oz.

Dose.—10 to 30 minims in Water, Infusion of Quassia, or Calumba.

FERRI PERNITRATIS LIQUOR.

SOLUTION OF PERNITRATE OF IRON.

Syn. LIQUOR FERRI NITRATIS, *U. S.*

Pernitrate of Iron, $Fe_2O_3, 3NO_5$, in solution in Water.

Test.—Sp. g. 1·107. 1 drachm treated with an excess of Solution of Ammonia gives a precipitate, which, when washed, dried, and incinerated, weighs 2·6 grains. It gives no precipitate with the Ferridcyanide of Potassium—Absence of Protoxide.

Medicinal Properties.

Tonic and astringent. Useful in chronic diarrhœa, especially when occurring in delicate and nervous females, when there are no inflammatory symptoms; also in menorrhagia; also both internally and as an injection in leucorrhœa, the injection being diluted so as to cause only slight heat and smarting.

FERRI PEROXIDUM.

PEROXIDE OF IRON.

$Fe_2O_3, HO.$

A dark-brown powder.

Solubility: dissolves completely though slowly with the aid of heat, in Hydrochloric Acid, diluted with half its volume of water.

Test.—The solution in Hydrochloric Acid gives no precipitate with Chloride of Barium, or with the Ferridcyanide of Potassium—indicating absence of Sulphuric Acid and Protoxide.

Preparation.

EMPLASTRUM FERRI. *Syn.* EMPL. THURIS; EMPL. ROBORANS.

Peroxide of Iron, 1; Burgundy Pitch, 2; Litharge Plaster, 8: melt the pitch and plaster together, and stir in the oxide.

(Same as Dub.; similar to Lond. Edin. and U. S.; not in others.)

Used as a strengthening plaster to afford mechanical support to relaxed muscles.

FERRI PEROXIDUM HYDRATUM.

HYDRATED PEROXIDE OF IRON.

Hydrated Peroxide of Iron, $2Fe_2O_3, 3HO$, with a variable amount of uncombined water.

A soft moist pasty mass, of a reddish-brown colour.

Solubility: dissolves readily in Hydrochloric Acid.

Test.—Free from grittiness.

Medicinal Properties.

Not eligible as a ferruginous preparation. It is, however, valuable as an antidote to the poison of Arsenic; it operates by producing an insoluble, and therefore inert Subarseniate of Protoxide of Iron ($2\,Fe_2O_3$ and $AsO_3 = 4\,FeO, AsO_5$).

FERRI PHOSPHAS.

PHOSPHATE OF IRON.

Phosphate of Iron, $3\,FeO, PO_5$, partially oxidated.

A slate-blue amorphous powder.

Solubility: soluble in acids, insoluble in water.

Test.—If it is digested in Hydrochloric Acid with a lamina of pure Copper, a dark deposit does not form on the metal—indicating absence of Arsenic.

Medicinal Properties.

Possesses the general properties of the ferruginous preparations. Given with advantage in amenorrhœa, and some forms of dyspepsia. It reduces bulimia, and invigorates and increases the power of digestion.

(Not in Lond. Edin. Dub.; in all others.)

Dose.—5 to 10 grs.

Preparation.

SYRUPUS.

Granulated Sulphate of Iron, 224 grs.; Phosphate of Soda, 200 grs.; Acetate of Soda, 74 grs.; Dilute Phosphoric Acid, 5½ oz.; Refined Sugar, 8 oz.; Distilled Water, 8 oz. Dissolve the Sulphate of Iron in 4 ounces of the Water, and the Phosphate and the Acetate of Soda in the remainder; mix the two solutions, and, after carefully stirring, transfer the precipitate to a calico filter, and wash it with Distilled Water till the filtrate ceases to be affected by Chloride of Barium; then press the precipitate strongly between folds of bibulous paper, and add to it the Dilute Phosphoric Acid; as soon as the precipitate is dissolved, filter the solution, add the Sugar, and dissolve without heat. The product should measure exactly 12 ounces.

A new preparation.

Dose.—1 to 3 drms.

FERRI SULPHAS.

SULPHATE OF IRON.

$FeO, SO_3 + 7\,HO$; eq. 139.

Pale bluish-green rhomboidal prisms, with little or no efflorescence.

Solubility: soluble in water, 1 in 1½, the solution rapidly oxidizes on exposure; insoluble in Alcohol and Proof Spirit, hence it cannot be dissolved in tinctures.

Test.—Crystals free from opaque rust-coloured spots, and dissolving in water without leaving any ochry residue. The aqueous solution gives no precipitate with Sulphuretted Hydrogen, and one nearly white with Ferrocyanide of Potassium.

Medicinal Properties.

In addition to the properties of iron salts in general, it is a powerful astringent, and is apt to irritate the stomach.

(In all the Pharmacopœias.)

Dose.—3 to 5 grs.

Dr. F. Farre gives 5 grains, with 3 grains of Sulphate of Quinia, four or five times a day, for enlarged spleen.

Preparation.

FERRI SULPHAS EXSICCATA.

Sulphate of Iron exposed in a porcelain capsule to a moderate heat, which may be raised to 400°. Reduce to powder.

(Edin. Dub. U. S. Belg.; not in others.)

Prescribed in pills. 3 grains are equal to 5 of the crystallized Salt.

Dose.—2 to 5 grs.

FERRI SULPHAS GRANULATA.

GRANULATED SULPHATE OF IRON.

$FeO, SO_3 + 7\,HO$; eq. 139.

Small granular crystals of a pale-green colour, which are not so liable to become brown as those of the Ferri Sulphas.

Solubility in water, 1 in $1\frac{1}{2}$; insoluble in Rectified Spirit.

Test.—Free from opaque, rust-coloured spots, and dissolving in water without leaving any ochry residue. The aqueous solution gives no precipitate with Sulphuretted Hydrogen, and one nearly white with Ferrocyanide of Potassium—indicating absence of Copper and Persulphate of Iron.

FERRUM REDACTUM.

REDUCED IRON.

Syn. Ferri Pulvis, *Dub.*

Metallic Iron, with a variable amount of Magnetic Oxide of Iron. A fine greyish-black powder, strongly attracted by the magnet, and exhibiting metallic streaks when rubbed with firm pressure in a mortar.

Solubility: it dissolves in Hydrochloric Acid with the evolution of Hydrogen.

Test.—10 grains added to an aqueous solution of 50 grains of Iodine, and 50 grains of Iodide of Potassium, and digested with them in a small flask at a gentle heat, leave not more than 5 grains undissolved, which should be entirely soluble in Hydrochloric Acid.

The author finds between 4 and 5 grains are left, which are Magnetic Oxide, and only a little more than half is *reduced Iron.*

Medicinal Properties.

It is one of the most powerful remedies in restoring the condition of the blood in all anæmic states of the system. It does not, however, possess the astringent properties of other preparations of Iron, and therefore cannot be used as a substitute in passive hæmorrhage. It is chiefly employed in anæmia, chlorosis, amenorrhœa, chorea, and enlargement of the spleen following intermittent fever. There is no pulverulent state of Iron so convenient as this, as it has no taste, and a very small dose is required.

Dose.—1 to 5 grs. several times daily, in powder or pill.

1 grain of this is equal medicinally to 5 grains of Citrate of Iron.

FERRUM TARTARATUM.

TARTARATED IRON.

Syn. Ferri Potassio-Tartras, *Lond.*

Tartrate of Iron and Potash, Fe_2O_3, KO, $C_8H_4O_{10} + HO$.

Thin transparent scales of a deep garnet colour.

Solubility in water, 1 in 4; sparingly in spirit.

Test.—By incinerating 50 grains of this preparation at a red-heat, and acting on the residue with Hydrochloric Acid, a solution is obtained, which, when digested with a little Nitric Acid, and afterwards diluted with 4 ounces of water, and supersaturated with Ammonia, yields a precipitate of Peroxide of Iron weighing 14·92 grains.

Medicinal Properties.

Useful in restoring the blood. May be used when a slight astringent is desired. May be prescribed with alkalis.

Dose.—6 to 20 grs. in pill, or dissolved in water.

Preparation.

VINUM FERRI.

Tartarated Iron, 160 grs.; Sherry, 20 oz.

Each drachm should contain 1 grain.

A new preparation.

Dose.—1 to 4 drms.

The Tartarated Iron dissolves with difficulty in Sherry which is already saturated with Bitartrate of Potash, indeed it will not *all* dissolve. The preparation is not nearly so satisfactory as that of the Lond. made with Sherry and Iron Wire, and far inferior to the *Old Steel Wine,* made with Malaga and Iron Wire.

FICUS.

FIG.

The dried fruit of the *Ficus Carica*, imported from Smyrna.

Medicinal Properties.

Nutritious, laxative, and demulcent. Chiefly used medicinally in constipation. Cut open and heated, it is a convenient suppurative cataplasm.

FILIX.

FERN ROOT.

The rhizoma, or rootstalk of the *Aspidium* or *Nephrodium Filix-mas*, dried.

Medicinal Properties.

The powder of the rhizoma is slightly tonic and astringent; chiefly used as an anthelmintic and in tænia. It apparently acts by destroying the worm, the expulsion being aided by purgatives.

Dose.—Of the powder, 1 to 3 drms.

Preparation.

EXTRACTUM LIQUIDUM.

Fern Root in coarse powder, 1; Ether, 2, or a sufficiency: percolate and distil off the Ether, and the liquid extract remains.

A new preparation. Syn. *Oil of Male Fern.*

(Not in Lond. Edin. Dub. U. S. Fr.; in Austr. Belg. Pr.)

Dose.—30 to 60 minims in milk, or with mucilage.

Should be given on an empty stomach. The author finds the Extract of the unexpanded frond equally effective with that of the rhizome.

FŒNICULUM.

SWEET FENNEL FRUIT.

The fruit of the *Fœniculum dulce*, imported from Malta.

Medicinal Properties.

Aromatic and carminative. In action similar to Anise. Much employed as a corrigent of less agreeable medicines. In infantile cases the infusion is frequently employed as an enema for flatus.

Preparation.

AQUA.

Sweet Fennel Fruit bruised, 1½; Water, 20; Distil 10.

(Same as Edin.; Dub. with Essence; U. S. with Oil; not in Lond.)

Dose.—1 to 2 oz.

As Fennel is retained in the Pharmacopœia, it might as well have still been used instead of Caraway for the Confection of Pepper, and thus preserve the flavour that it had before.

GALBANUM.

GALBANUM.

$C_{40} H_{27} O_7$.

A gum resin obtained from an umbelliferous plant; imported from India and the Levant; in masses of greyish whitish or reddish tears. Usually heated to 212° F., and strained before using.

Sp. g. 1·212.

Medicinal Properties.

Similar to Assafœtida, but less powerful. Chiefly used in chronic affections of the bronchial mucous membranes; externally as a plaster to indolent swellings to promote resolution or suppuration.

Preparations.

EMPLASTRUM.

Galbanum, 1; Ammoniac, 1; Yellow Wax, 1; Litharge Plaster, 8.

Melt the two first together and strain, then add the rest.

(Same as Lond. and Edin.; not in Dub.; contained in all the foreign Pharmacopœias, but the formulæ are different.)

PILULA.

The Pilula Galbani Composita has found a place in the London Pharmacopœia for the last half-century, and would naturally be looked for under Galbanum; its name has been changed to Pilula Assafœtidæ Composita, and its composition somewhat altered. *See* ASSAFŒTIDA.

GALLA.

GALLS.

Excrescences on *Quercus infectoria*, caused by the punctures and deposited ova of *Diplolepis Gallæ-Tinctoriæ;* from the Mediterranean and the East Indies.

Solubility: all the soluble matter of Galls is taken up by forty times their weight of boiling water, and the residue is tasteless.

Galls contain about 35 per cent. of Tannin or Tannic Acid, 5 per cent. of Gallic Acid, to which their therapeutic qualities may be attributed.

Medicinal Properties.

Powerfully astringent. Useful in hæmorrhages, as menorrhagia, hæmaturia, and hæmoptysis, also in increased mucous and other discharges. Externally to suppress hæmorrhage from the gums, nose, etc.; to lessen the discharge from mucous membranes, as in gleet, leucorrhœa, etc.; as a gargle, lotion, or injection (½ oz. to a pint).

Dose.—(Of powder) 10 to 20 grs. several times a day.

Preparations.

ACIDUM GALLICUM.—*See* ACIDUM GALLICUM.

ACIDUM TANNICUM.—*See* ACIDUM TANNICUM.

TINCTURA.

Galls bruised, 1; Proof Spirit, 8: macerate for forty-eight hours with 6 of Spirit, agitating occasionally, pack in a percolator, let it drain, and then pour on the remaining Spirit; when it ceases to drop, wash the marc with Spirit to make up 8.

(Same as Lond. Edin. Dub. U. S.; not in foreign Pharmacopœias.)

Dose.—½ to 2 drms.

UNGUENTUM.

Galls in very fine powder, 80 grs.; Simple Ointment, 1 oz.: mix.

(Same as Dub. and U. S. 1 in 8; not in others.) A useful application for hæmorrhoids.

UNGUENTUM GALLÆ CUM OPIO.

Ointment of Galls as above, 1 oz.; Opium in powder, 32 grs.: mix.

(Same as Lond. and Edin.; not in others.) Applied to painful hæmorrhoids.

Not Officinal.

Decoctum Gallæ (Lond.).—Bruised Galls, 2½; Distilled Water, 40: boil to 20 and strain.

A most useful astringent lotion.

GENTIANA.

GENTIAN.

The dried root of the *Gentiana lutea*, collected in the Alps, Apennines, and other mountainous districts of Europe.

Medicinal Properties.

Used in all cases of pure debility of the digestive organs, or when a general tonic impression is required.

Dose.—(Of the powder) 10 to 40 grs.

Preparations.

EXTRACTUM.

Gentian sliced, 1; boiling Distilled Water, 10: macerate two hours, boil fifteen minutes, strain and evaporate.

A good substance to add to powders to form them into pills.

Dose.—10 to 15 grs.

(Same as Lond. Edin. Dub. Fr. Pr.; not in Austr. Belg.)

INFUSUM COMPOSITUM.

Gentian sliced, ¼ oz.; Bitter Orange Peel bruised, 30 grs.; Coriander, 30 grs.; Proof Spirit, 2 oz.; cold Distilled Water, 8 oz.: pour the spirit on the ingredients, and after two hours add the Water. Infuse for two hours and strain.

(Same as Edin. and U. S.; this is so different from Lond. and Dub. that it partakes more of the character of a weak tincture, but is not strong enough to keep without change more than fifteen or sixteen days; is inferior to the aqueous infusion of Lond.; not in others.)

Dose.—2 to 4 drms.

TINCTURA COMPOSITA.

Gentian bruised, 1½; Bitter Orange Peel, bruised, ¾; Cardamoms bruised, ¼; Proof Spirit, 20: macerate for forty-eight hours with 15 of spirit, agitating occasionally, pack in a percolator, let it drain, and then pour on the remaining spirit; when it ceases to drop, wash the mare with spirit to make up 20.

(Same as Dub. and U. S.; Lond. and Edin. weaker; Tinctura Simplex, Pr. 1 in 8, and Belg. 1 in 6; not in Austr.)

Dose.—1 to 2 drms.

Not Officinal.

Infusum Gentianæ Compositum (Lond.).—Gentian, Orange Peel, of each, 1; Lemon Peel, 2; Boiling Water, 80: infuse one hour.

GLYCERINUM.

GLYCERINE.

A sweet principle, $C_6H_8O_6$, obtained from fats and fixed oils. A colourless, thick fluid, oily to the touch, without odour, of a sweet taste.

Solubility: in all proportions with water and Alcohol, but insoluble in Ether and Oils.

It possesses great powers as a solvent, and is an excellent excipient for many medical substances. It dissolves its own weight of Borax, it also dissolves Bromine and Iodine, the Iodide of Sulphur, the Chlorides of Potassium and Sodium, the fixed alkalies, some of the alkaline earths, and a large number of neutral salts. It also dissolves the vegetable acids, and either suspends or dissolves the vegetable alkaloids. Many solutions are made with it for medicinal purposes, as of the Salts of Morphia, Quinia, Strychnia, Veratria, Atropia, Tannic and Gallic Acids, and Arsenic.

It is antiseptic, 1 part to 10 Water, preserving animal substances equal to spirit.

Test.—Sp. g. 1·260. This is the specific gravity ordered by the Pharmacopœia, but the best Glycerine of commerce is 1·250, and answers all practical purposes; and it is generally diluted for use. It may be obtained of a specific gravity of 1·270, and even of 1·280, though with great difficulty; this very concentrated state is never required in medicine.

Medicinal Properties.

Internally it is nutrient and demulcent. It has been proposed as a substitute for Cod Liver Oil, but its nutrient properties are far inferior. It is sometimes employed as a sweetening agent in the place of syrup.

As an external remedy, however, it is highly valued, chiefly from its emollient and undrying properties. In skin diseases where emollient and soothing applications are required, as pityriasis, lepra, herpes, eczema, psoriasis, prurigo, and lichen. Useful as a moist dressing for wounds. Excellent for chilblains.

Used in poultices ($\frac{1}{4}$ or $\frac{1}{16}$), it keeps them soft for a long time.

Introduced with cotton it relieves deafness arising from dryness of the external meatus.

Dose.—10 minims to 1 drm.

Not Officinal.

GLYCERINE OINTMENT.—Glycerine, 8; Spermaceti, 4; White Wax, 1; Oil of Almonds, 16: add the Glycerine to the melted ingredients, and stir briskly till cold.

For chaps and excoriations.

GLYCERINE CREAM FOR CHILBLAINS.—Glycerine, 1; Soft Soap, 1; Cherry-laurel Water, 1: mix.

GLYCERINE CREAM WITH CAMPHOR.—Glycerine, 2; Camphor, 1; Rectified Spirit, 1: mix.

GLYCYRRHIZA.

LIQUORICE ROOT.

The root or underground stem of the *Glycyrrhiza glabra*, fresh and dried.

Medicinal Properties.

An excellent demulcent as a decoction in catarrhal affections, irritation of the mucous membrane of the bowels and urinary passages. A useful adjuvant to decoctions of bitter or irritating vegetable substances. In the form of extract and its solution is a domestic remedy for cough.

Preparation.

EXTRACTUM.

Liquorice Root in coarse powder: macerate in water for twelve hours and percolate; heat to 212° F., strain and evaporate.

(Lond. fresh root; Edin. and Dub. dry.)

In all the Pharmacopœias.

Dose.—$\frac{1}{2}$ to 1 drm.

It is properly ordered to be prepared from the dried root, for when ordered from the fresh root it cannot be strained bright, and is liable to fermentation.

The Solazzi Juice is made from the *Glycyrrhiza Echina.*

GRANATI RADIX.

POMEGRANATE ROOT.

The bark of the root of the *Punica Granatum,* fresh or dried: chiefly imported dried from Germany.

Medicinal Properties.

Anthelmintic. It is considered more effective than turpentine in expelling tapeworm, and is less likely to cause nausea. Both in a green and dry state it is found equally effective in India. In this country the Male Fern is more relied on.

Preparation.

DECOCTUM.

Pomegranate Root, fresh or dry, 1; Distilled Water, 20; boil to 10 and strain.

(Same as Lond.; not in Edin. Dub. and U. S.; Belg. 1 to 6, boil to 4.)

Dose.—1 to 2 oz.

GUAIACI LIGNUM.

GUAIAC WOOD.

The wood of the *Guaiacum officinale* sliced, or coarsely turned, imported from St. Domingo and Jamaica.

Test.—Nitric Acid applied to the dark or central wood produces a bluish-green colour.

Not often prescribed alone.

Contained in Decoctum Sarsæ Compositum.

GUAIACI RESINA.

GUAIAC RESIN.

The resin obtained from the stem of the *Guaiacum officinale* by natural exudation, by incision, or by heat.

In large masses of brownish or greenish-brown colour; fractured surface resinous, translucent at the edges.

Test.—A solution in Rectified Spirit strikes a clear blue colour when applied to the inner surface of a paring of raw potato.

Medicinal Properties.

A stimulant diaphoretic and alterative. It is employed in chronic forms of rheumatism accompanied by great debility, in which the symptoms are relieved by warmth.

Generally prescribed in composition with other medicines.

Contained in Pilula Calomelanos Composita.

Preparations.

MISTURA.

Guaiac Resin, 2; Sugar, 2; Gum Arabic powder, 1; Cinnamon Water, 80.

Dose.—½ to 2 oz.

TINCTURA AMMONIATA.

Guaiac Resin, in fine powder, 4; Aromatic Spirit of Ammonia, 20: macerate seven days, filter and wash the filter with Spirit to make up 20.

(Same as Lond. and Edin.; not in Dub.; Pr. 1 to 7, with pure Ammonia and Spirit; Belg. 1 to 9, with ditto; not in Austr. and Fr.)

Dose.—½ to 1 drm., either with mucilage or yolk of egg, to form an emulsion.)

HÆMATOXYLUM.

LOGWOOD.

The heartwood of the *Hæmatoxylum Campechianum* sliced, imported from Campeachy in Central America, from Honduras and Jamaica. The cherry-red inner wood is the part used.

Medicinal Properties.

A mild astringent, without irritating properties, useful in ordinary chronic diarrhœa and dysentery, and in passive hæmorrhages.

Preparations.

DECOCTUM.

Logwood in chips, 1 oz.; Cinnamon in powder, 60 grs.; Distilled Water, 20 oz.: boil ten minutes, adding the Cinnamon towards the end, strain 16 oz.

(Same as Edin.; Lond. and Dub. stronger and without Cinnamon; U.S. 1 in 16.)

Dose.—1 to 2 oz.

EXTRACTUM.

Logwood in fine chips, 1 lb.; boiling Distilled Water, 1 gallon: macerate twenty-four hours, boil to ½ gallon, strain and evaporate to an Extract. Iron vessels should not be used.

(Same as Lond. Edin. and U. S.; not in Dub.)

Dose.—10 to 30 or 40 grs.

HEMIDESMUS.

HEMIDESMUS.

The root of the *Hemidesmus Indicus*, or Indian Sarsaparilla, dried; imported from India.

Medicinal Properties.

Diuretic and alterative.

It was brought to England by Dr. Ashburner about the year 1830, and was prescribed for skin diseases and indigestion, like Sarsaparilla, but it did not prove very satisfactory, and is now used chiefly as a flavouring agent.

Preparation.

SYRUPUS.

Hemidesmus, bruised, 1; Refined Sugar, 7; boiling Distilled Water, 5: infuse four hours, strain, and add Sugar; dissolve. The product should weigh 10½. Sp. g. 1·335.

(Dub. only.)

Dose.—1 to 4 drms.

HIRUDO.

THE LEECH.

Sanguisuga officinalis, the Speckled Leech (English Leech).

S. medicinalis, the Green Leech, imported chiefly from Hamburg. Also collected in large numbers in Spain, France, and Italy (Hungary Leech).

The *S. officinalis*, belly greenish-yellow, spotted with black. *S. medicinalis*, belly olive-green, not spotted.

HORDEUM.

PEARL BARLEY.

The decorticated seeds of the *Hordeum distichon*.

Wholly destitute of Hordein, abounding in starch, with some sugar, gluten, and gum.

Medicinal Properties.

Demulcent, used as a drink in the sick room.

Preparation.

DECOCTUM.

Pearl Barley, 1; Distilled Water, 15: boil twenty minutes, and strain.

(Lond. Dub. and U. S.; Belg. half the strength; not in others.)

HYDRARGYRUM.

MERCURY.

Hg; eq. 100.

From China, Almaden in Spain, and Idria in Carniola; also from South America. It is sometimes found pure, but it is chiefly obtained from its sulphuret (native cinnabar) by distillation.

Mercury, as imported, is, after being squeezed through leather, pretty free from impurities. It was first employed medicinally by the Arabian physicians Avicenna and Rhazes, but they only ventured to use it externally against vermin and cutaneous diseases. We are indebted to that renowned empiric Paracelsus for its administration internally (*Pereira*, *Mat. Med.* 1849). The equivalent (100) is adopted in this work of Pereira. Calomel is there called the Subchloride of Mercury, and Corrosive Sublimate the Perchloride, the symbol HgCl., however, being used.

Unfortunately, the descriptive name Chloride of Mercury, applied to Calomel in former Pharmacopœias, is by the British Pharmacopœia now applied to the Corrosive Sublimate. This, although, strictly speaking, correct, has given offence to the profession from the liability to which prescribers are exposed of having prescriptions made up with the Corrosive Sublimate instead of Calomel, which, from long familiarity with the London Pharmacopœia, they intended when prescribing Hydrargyri Chloridum. No compounder of medicines however, with a common knowledge of doses, would be likely to commit such an error.

Test.—Entirely volatile with heat, leaving no residue.

Preparations.

EMPLASTRUM.

Mercury, 3; Olive Oil, 1; Resin, 1; Litharge Plaster, 6: dissolve the Resin in the Oil with the aid of heat; let it cool; add the Mercury and triturate till its globules disappear; then add to the mixture the Litharge Plaster, previously liquefied, and mix the whole thoroughly.

(In all the Pharmacopœias.)

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Ammoniac, 12 oz.; Mercury, 3 oz.; Olive Oil, 1 drm.; Sulphur, 8 grs.: heat the Oil, and add the Sulphur to it gradually, stirring till they unite. With this mixture triturate the Mercury until globules are no longer visible; and lastly add the Ammoniac, previously liquefied, mixing the whole carefully.

HYDRARGYRUM CUM CRETA.

Mercury, 1; Prepared Chalk, 2: triturate till the globules disappear.

By heat, part passes off in vapour; what remains corresponds to chalk in its chemical characters.

(Same as Dub.; Lond. Edin. and U. S. 3 and 5; not in foreign.)

Dose.—5 to 20 grs.

Best given by itself, or with rhubarb or other powder, as when rubbed with hard extract to form a pill, the Mercury sometimes separates in globules.

LINIMENTUM.

Ointment of Mercury, 1; Solution of Ammonia, 1; Liniment of Camphor, 1: mix.

(Same as Dub.; similar to Lond.; not in any other Pharmacopœia.)

A stimulating Liniment, applied to indolent ulcers.

PILULA.

Mercury, 2; Confection of Roses, 3; Liquorice Root in fine powder, 1: rub the Mercury with the Confection of Roses until metallic globules are no longer visible, then add the Liquorice, and mix the whole well together.

(Same as Lond. Edin. and Dub.; Belg. U.S. 1 in 3; Fr. with Aloes; not in Pr. and Austr.)

Dose.—4 to 6 grs. as an alterative, 10 grs. as a purgative.

UNGUENTUM.

Mercury, 16; Prepared Lard, 16; Prepared Suet, 1: rub them together until metallic globules cease to be visible.

(Same as Lond. Edin. and Dub.; U.S. Austr. Belg. and Fr.; Pr. 1 in 2.)

HYDRARGYRI IODIDUM RUBRUM.

RED IODIDE OF MERCURY.

Syn. Hydrargyri Biniodidum.

Hg I.

A crystallized powder of a vermilion colour.

Corrosive Sublimate, 4; Iodide of Potassium, 5; boiling Distilled Water, 80: dissolve the Corrosive Sublimate in three pints, and the Iodide of Potassium in the remainder of the water, and mix the two solutions. When the temperature has fallen to that of the atmosphere, decant the supernatant liquor from the precipitate, and having collected the latter in a filter wash it twice with cold distilled water, and dry it at a temperature not exceeding 212° F. A very slight excess of Iodide of Potassium is necessary to convert all the Mercury into Iodide. A large excess combines with the Biniodide, and forms a soluble double salt (HgIKI).

Solubility: almost insoluble in Water; dissolves sparingly in Alcohol, but entirely in Ether, or in the aqueous solution of Iodide of Potassium, Iodide of Zinc, and Chloride of Sodium.

Test.—Entirely volatilized at a red-heat, when it becomes yellow; it resumes its scarlet colour on cooling.

Medicinal Properties.

A powerful irritant poison, similar to the protiodide, only much more active. It is used in scrofula and syphilis.

(In all the Pharmacopœias except Lond.)

Dose.—$\frac{1}{16}$ increasing to $\frac{1}{8}$ gr.

Best given in a solution of Iodide of Potassium.

Preparation.

UNGUENTUM.

Red Iodide of Mercury in very fine powder, 16 grs.; Simple Ointment, 1 oz.: mix.

A most effective application for bronchocele, and a good application for warts.

(Brit. 1 in 27: Dub. 1 in 8; not in Lond. or Edin.; Belg. 1 in 25; not in Austr. Pr. Fr.)

HYDRARGYRI IODIDUM VIRIDE.

GREEN IODIDE OF MERCURY.

Syn. Iodide of Mercury.

Hg_2I.

A dull-green powder.

Mercury, 1 oz.; Iodine, 278 grs.; Rectified Spirit, a sufficiency: rub the Iodine and Mercury in a porcelain mortar, occasionally moistening the mixture with a few drops of the spirit, and continue the trituration until metallic globules are no longer visible, and the whole assumes a green colour. The product thus obtained should be dried in a dark room, on filtering-paper, by simple exposure to the air, and preserved in an opaque bottle.

This should be freshly made, as Biniodide of Mercury forms after being kept some time, and becomes evident in minute red specks pervading the mass.

Insoluble in Water and Ether.

(In all the Pharmacopœias except Fr.)

Test.—Entirely volatilized at a red-heat. When shaken in a tube with Ether, nothing is dissolved. Is not acted upon by Aniline at a boiling heat. If Biniodide be present, a magenta colour is produced.

Medicinal Properties.

An irritant poison. In small repeated doses it acts upon the lymphatic and glandular systems, and sometimes causes salivation. Employed as an ointment (1 part to 8 of Lard) for scrofulous and venereal eruptions.

Dose.—1 to 3 grs., and for children $\frac{1}{6}$ to $\frac{1}{2}$ gr.

HYDRARGYRI NITRATIS LIQUOR ACIDUS.

ACID SOLUTION OF NITRATE OF MERCURY.

Nitrate of Mercury, HgO,NO_5, in solution in Nitric Acid.

Mercury, 4; Nitric Acid, 3; Distilled Water, 3: mix the Nitric Acid with the Water in a flask, and dissolve the Mercury in the mixture without the application of heat. Boil gently for fifteen minutes, cool, and preserve the solution in a stoppered bottle.

Test.—Sp. g. 2·246. Does not give any precipitate when a little of it is dropped into Hydrochloric Acid, diluted with twice its volume of water.

(Same as Dub.; not in others.)

Medicinal Properties.

Caustic. For ulcers, tubercles, etc. Used by Recamier in cancerous diseases.

Preparation.

UNGUENTUM. *Syn.* UNGUENTUM CITRINUM, *Edin.*

Mercury, 4; Nitric Acid, 8; Prepared Lard, 15; Olive Oil, 32: dissolve the Mercury in the Nitric Acid with the aid of a gentle heat; melt the Lard in the Oil by a steam or water bath in a porcelain vessel capable of holding six times the quantity, and while the mixture is hot add the solution of Mercury, also hot, mixing them thoroughly. If the mixture do not froth up, increase the heat till this occurs. (The heat required for this is 170° to 180° F.)

Medicinal Properties.

Applied in chronic diseases of the skin as a stimulant and alterative; extremely efficacious in porrigo; in ophthalmic diseases, diluted with 1 or 2 parts of simple ointment, and applied by means of a camel's-hair pencil to the lids.

This ointment, which has had a place in the London, Edinburgh, and Dublin Pharmacopœias from their earliest date to the time of the publication of the British Pharmacopœia, was introduced as a substitute for the celebrated Golden Eye Ointment; but till within the last twenty years it had been a most unsatisfactory preparation; it grew hard and crumbly, and its colour changed in a short time after it had been made. We are chiefly indebted to Dr. Duncan for the improved formula which, with some modification, is adopted by the British Pharmacopœia, so that we have now an ointment that remains soft, and retains its beautiful lemon-colour for a long time. Several able pharmaceutists have endeavoured from time to time to point out a better way of preparing it, and various proportions of the ingredients have been employed, as well as the ingredients themselves varied; thus, Butter or Neatsfoot Oil has been used in place of Olive Oil,—but none of the results obtained have equalled the formula here given. If Nitric Acid, sp. g. 1·420 is employed, 12 in the place of 8 will be required.

HYDRARGYRI OXIDUM RUBRUM.

RED OXIDE OF MERCURY.

Syn. HYDRARGYRI NITRICO-OXIDUM, *Lond.*

HgO; eq. 108.

An orange-red powder.

Solubility: insoluble in Water; readily in Hydrochloric Acid.

Test.—Entirely volatilized at a red-heat, being at the same time decomposed into mercury and oxygen. If this be done in a test-tube, no orange vapours are perceived. Dissolves without residue in Hydrochloric Acid.

Medicinal Properties.

A powerful irritant. Internally, readily excites vomiting and purging; rarely, however, thus used. Chiefly employed as an escharotic, either in powder or ointment.

Dose—¼ to 1 gr. in pill, in combination with Opium.

Preparation.

UNGUENTUM.

Red Oxide of Mercury, in very fine powder, 64 grs.; Simple Ointment, 1 oz.: mix.

(Brit. about 1 in 7; same as Dub.; Lond. and Edin. 1 in 8; Pr. 1 in 48; Belg. 1 in 50; not in Austr. and Fr.)

In order to make this ointment perfectly smooth, the oxide should be first well rubbed in a warm mortar with a little of the ointment, the remainder added gradually.

HYDRARGYRI SUBCHLORIDUM.—*See* CALOMELAS.

HYDRARGYRUM AMMONIATUM.

AMMONIATED MERCURY.

Syn. HYDRARGYRI AMMONIO-CHLORIDUM, *Lond. Dub.*; HYDRARGYRI PRÆCIPITATUM ALBUM, *Edin.*

$NH_2Hg_2, Cl.$

An opaque white powder.

Solubility: soluble in Hydrochloric Acid. Insoluble in Water, Alcohol, and Ether.

Test.—Entirely volatilized at a red-heat.

(Lond. and Edin.; not in Dub.; U. S. Austr. Belg. Pr.; not in Fr.)

Medicinal Properties.

Never used internally; externally used to destroy pediculi. Used in the form of ointment as a stimulating application for chronic skin diseases, as porrigo, impetigo, herpes, and sometimes scabies. For pediculi the powder can be used alone or mixed with rose-water, and the unpleasantness of greasing the linen avoided.

Preparation.

UNGUENTUM. *Syn.* UNG. PRÆCIPITATI ALBI, *Edin.*

Ammoniated Mercury, 64 grs.; Simple Ointment, 1 oz.: mix.

(Brit. 1 in 7; Lond. and Edin. 1 in 12; U. S. 1 to 10; not in Dub. and foreign.)

HYDRARGYRUM CORROSIVUM SUBLIMATUM.

CORROSIVE SUBLIMATE.

$HgCl$; eq. 135·5.

In heavy colourless masses of transparent prismatic crystals.

Solubility: in Water, 1 in 15; in Rectified Spirit, 1 in 7; more soluble in Ether.

Test.—Entirely soluble in Ether. When heated, it sublimes without decomposition, or leaving any residue.

(In all the Pharmacopœias.)

Medicinal Properties.

In small doses and in syphilitic affections.

Dose.—⅛ to ¼ gr.

HYOSCYAMUS.

HYOSCYAMUS.

The leaves and branches of the *Hyoscyamus niger*, or Henbane, an indigenous biennial plant, dried; collected when about two-thirds of its flowers are expanded.

Its properties are completely extracted by Alcohol. The leaves yield by destructive distillation a very poisonous oil. The plant is said to contain a crystalline alkaloid, which is rarely obtained pure.

The biennial plant in the first year presents only a tuft of leaves; these die, and leave not a trace of the plant in the winter; they spring again in April and produce a stem, the leaves and the branches of this are used in medicine.

Medicinal Properties.

Narcotic. Similar in action to Belladonna and Stramonium, but milder. Used as a sedative in excited states of the nervous system when Opium, from its constipating properties, is not advisable. It is also employed to diminish pain and allay irritation of the bladder, and to prevent the griping of purgative medicines. The fresh leaves are sometimes used as a cataplasm, or as a fomentation to allay pain in ulcers and tumours, and in gouty and rheumatic swellings. The juice of the plant dilates the pupil of the eye.

Preparations.

EXTRACTUM.

The expressed juice of the leaves and young branches, evaporated to an extract at a temperature not exceeding 140°.

100 produce 50 juice = 5 Extract.
100 leaves, dried, weigh 15½.

(Same as Lond. Edin. and Dub.; Belg. reduced to powder; Fr. clarified juice; Pr. Austr. with recent plant and Rectified Spirit to an extract.)

Dose.—3 to 6 grs.

TINCTURA.

Hyoscyamus leaves, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, pack in a percolator, and when it has drained pour on the remaining spirit, and when it ceases to drop, press, and wash the marc with spirit to make up 8.

(Same as Lond. Edin. and Dub.; Fr. 1 to 5; Belg. 1 to 6; not in Pr. and Austr.)

Dose.—15 to 60 minims.

Not Officinal.

Suppositoria Hyoscyami.—Extract, 5 grs.; Cacao Butter, 6 grs.; Lard, 4 grs.; Wax, 1: mix for one suppository.

INFUSA.

INFUSIONS.

Infusions, though generally made with boiling water, are in some cases ordered to be made at a lower temperature, as in the case of Infusum Calumbæ, the starch of which would be dissolved by boiling water, and would thus be objectionable to prescribe with Iodine. The mucilage and vegetable albumen present is, however, dissolved by cold water, and these render the infusion liable to change.

The Infusion Pot which I invented, and placed in the Exhibition of 1851, answers well for Infusions if proper sizes are used for the quantities ordered, so that the ingredients are held by the perforated basin in the upper part of the fluid and under the surface. The impregnated fluid becoming constantly of greater density falls to the bottom, thus exposing the ingredients to the continued action of fresh unimpregnated fluid until the action ceases.

Infusions are very apt to change in hot weather, and several means have been proposed to preserve them. Small bottles filled to the brim with recently-made infusion, may be placed in a boiler with hay and water, and heated to the boiling-point, then tied over with a bladder whilst hot. Infusions thus treated are preserved for several months. Infusion of Senna, which would change in twelve hours in hot weather, will keep for several days perfectly good if one grain of Nitre be dissolved in each ounce of the Infusion.

The following Infusions contained in former Pharmacopœias are omitted from the British:—Infusum Armoraciæ Comp., Inf. Cinchonæ Spissatum (*see* Extractum Liquidum), Inf. Cinchonæ Pallidæ, Inf. Cinchonæ Pallidæ Spissatum, Inf. Juniperi, Inf. Menthæ Viridis, Inf. Pareiræ, Inf. Simarubæ.

The Infusions introduced into the British Pharmacopœia are, Inf. Dulcamaræ and Inf. Uvæ Ursi.

The following are the Infusions of the British Pharmacopœia.

It has been thought desirable for the convenience of the dispenser to add the ingredients and time required. The full formulæ, however, for these Infusions will be found under the names of the substances from which they are prepared.

Boiling Distilled Water is to be used, unless otherwise stated.

INFUSUM ANTHEMIDIS	½ oz.	Water	10 oz.	Infus. ¼ hour and strain.
INF. AURANTII (peel cut small)	½		10	¼
INF. BUCCO (bruised)	½		10	1
INF. CALUMBÆ (coarse powder)	½	cold	10	1
INF. CARYOPHYLLI (bruised)	¼		10	½
INF. CASCARILLÆ (coarse powder)	1		10	1
INF. CATECHU (coarse powder) Cinnamon (bruised)	160 grs. 30		10	½
INF. CHIRATÆ (bruised)	¼	120°	10	½
INF. CINCHONÆ FLAVÆ (coarse powder)	½		10	2
INF. CUSPARIÆ (coarse powder)	½	120°	10	2
INF. CUSSO (coarse powder)	¼		4	¼ not strained.
INF. DIGITALIS	30 grs.		10	1
INF. DULCAMARÆ (bruised)	1		10	1
INF. ERGOTÆ (coarse powder)	¼		10	½
INF. GENTIANÆ COMP. Gentian (sliced) Bitter Orange Peel (bruised) Coriander Proof Spirit Cold Water	 ¼ 30 grs. 30 grs. 2 oz. 8 oz.		10	2 hours in spirit, then add the water, and infuse 2 hours more.
INF. KRAMERIÆ (bruised)	½		10	1
INF. LINI . . . Linseed Fresh Liquorice Root	160 grs. 60 grs.		10	4
INF. LUPULI	½		10	2
INF. MATICÆ (cut small)	½		10	½
INF. QUASSIÆ (chips)	60 grs.	cold	10	½
INF. RHEI (sliced)	¼		10	1
INF. ROSÆ ACIDUM . . Petals Dil. Sulph. Acid	¼ 1 drm.		10	½
INF. SENEGÆ	½		10	1
INF. SENNÆ (Ginger sliced, 30 grs.)	½		10	1
INF. SERPENTARIÆ	¼		10	2
INF. UVÆ URSI	½		10	2
INF. VALERIANÆ (bruised)	120 grs.		10	1

IODUM.

IODINE.

I; eq. 127.

Prepared from Kelp, the vitrified ashes of sea-wrack, found in the western islands of Scotland and Ireland. Sublimed in laminar crystals of a dark colour and metallic lustre.

Solubility: sparingly in Water, 1 in 7000; in Alcohol, 1 in 12; and in a solution of Iodide of Potassium.

Test.—Entirely soluble in Ether. It sublimes without leaving any residue, and the portion which first comes over does not include any slender colourless prisms, emitting a pungent odour: Cyanide of Iodine. 127 grains dissolved in 1 ounce of Water containing 15 grains of Iodide of Potassium, require for complete decoloration 100 measures of the volumetric solution of Hyposulphite of Soda; *i. e.* to change the whole of the equiv. in grains = 127 of Iodine into colourless Iodide of Sodium and Tetrathionate of Soda.

Medicinal Properties.

It acts specially as a stimulant to the entire lymphatic system, causing absorption, promoting elimination by the kidneys, acting as an antidote to certain blood poisons, organic and inorganic, as syphilis and lead-poisoning. Also in chronic inflammation, to promote absorption and elimination in dropsies and chronic rheumatism. Most efficacious in glandular enlargements and morbid growths, as in bronchocele, scrofulous glands of the neck and abdomen; caution, however, being used, as it may occasion wasting in healthy glands, such as the mammæ and testes. Externally, in chronic and skin diseases, and over enlarged and indurated parts and diseased joints, to cause absorption. As a speedy vesicant the liniment may be painted over the part. A few drops of the tincture in half a pint of hot water may be inhaled in some forms of chronic bronchitis and phthisis.

Best administered in the form of Tincture, largely diluted with Water.

Contained in Pilula Ferri Iodidi and Syrupus Ferri Iodidi.

The Iodides of Iron, Mercury, and Potassium are officinal; those of Arsenic, Cadmium, Sulphur, and Zinc are not officinal.

Preparations.

LINIMENTUM.

Iodine, 5; Iodide of Potassium, 2; Rectified Spirit, 20: dissolve.

A new preparation.

Proper strength to paint upon bursers and enlarged glands, but if used incautiously it will blister.

TINCTURA.

Iodine, ½; Iodide of Potassium, ¼; Rectified Spirit, 20: dissolve.

Dose.—10 to 30 minims.

(Same quantity of Iodine as Lond. Dub. and U. S.; but with only one-fourth of Iodide of Potassium. The following without the Iodide of Potassium:—Austr. 1 in 20; Edin. Pr. Fr. Belg. and U. S. Comp. 1 in 15.)

UNGUENTUM COMPOSITUM.

Iodide, 32 grs.; Iodide of Potassium, 32 grs.; Proof Spirit, 1 drm. Prepared Lard, 2 oz.

(Same quantity of Iodine as Lond. Edin. Dub. and U. S., but with only half the quantity of Iodide of Potassium; Belg. 1 in 25, without Iodide of Potassium; not in Austr. and Pr.)

Not Officinal.

INHALATIO IODI.—Iodine, 2 grs.; Rectified Spirit, 10 minims; Water, ½ oz. (for one inhalation.)

IPECACUANHA.

IPECACUAN.

The dried root of the *Cephaelis Ipecacuanha*, from Brazil. The active principle resides in the bark, the inner or woody part possessing scarcely any of its virtues.

Ipecacuanha contains an alkaloid, *Emetina* ($C_{35}H_{25}NO_9$), separable as a whitish amorphous powder.

Medicinal Properties.

Emetic in large doses. In small doses it becomes absorbed and acts upon the different mucous surfaces, especially of the respiratory organs, and is therefore expectorant. It is also diaphoretic and laxative.

(In all the Pharmacopœias.)

Dose.—As an emetic, 15 to 30 grs.; as an expectorant, etc., 1 to 2 grs.

Prescribed in ¼ to 1 gr. doses as an auxiliary in alterative pills.

Contained in Trochisci Morphiæ et Ipecacuanhæ.

Preparations.

PULVIS IPECACUANHÆ CUM OPIO. *Syn.* PULVIS IPECACUANHÆ COMP.
Ipecacuan, in powder, 1; Opium, in powder, 1; Sulphate of Potash, 8: mix.

Dose.—5 to 10 grs., depending much on the amount of Opium desired to be given, 10 grs. of the powder containing 1 gr. of Opium.

(Same as all the Pharmacopœias, and is the well-known Dover's Powder.)

VINUM.
Ipecacuanha, bruised, 1; Sherry, 20: macerate seven days, shake occasionally, and strain.

(Same as Lond. Edin. Dub. and Belg.; U. S. rather weaker; not in Austr. Fr. and Pr.)

Dose.—As an emetic, 3 to 6 drms.; as an expectorant, etc., 5 to 40 minims.

(Lond. Edin. Dub. and U. S. 1 to 16; not in other Pharmacopœias.)

JALAPA.

JALAP.

The tubers of the *Exogonium Purga*, dried; imported from Mexico.

Medicinal Properties.

A brisk cathartic, operating sometimes painfully, producing copious watery discharges. From its hydragogic powers, especially applicable to dropsy, when it is usually combined with Bitartrate of Potassa.

Contained in Pulvis Scammonii Compositus.

Preparations.

EXTRACTUM.

Jalap, in coarse powder, 1; Rectified Spirit, 4; Distilled Water, 8: macerate the Jalap in the spirit for seven days, press out the tincture, then filter and distil off the spirit, leaving a soft extract; again macerate the residual Jalap in the water for four hours, express, strain through flannel, and evaporate by a water-bath to a soft extract; mix the two extracts and evaporate to a proper consistence, at a temperature not exceeding 140° F.

100 lb. of Jalap yield 50 lb. extract.

In the former London Pharmacopœia, the Jalap was first digested in Rectified Spirit, then boiled in Water, the tincture and decoction strained separately and mixed, then evaporated to an extract, and a most heterogeneous extract was the result of the process. The British Pharmacopœia directs the root to be digested with the spirit and then with cold water; it is then free from these objections.

Dose.—10 to 20 grs.

(Lond. and U. S.; not in Edin. Dub. or other Pharmacopœias.)

PULVIS COMPOSITUS.

Jalap, in powder, 4; Acid Tartrate of Potash, 9; Ginger, in coarse powder, 1.

Dose.—10 to 20 grs.

RESINA.

A Resin obtained from Jalap by means of Rectified Spirit.

Easily soluble in Rectified Spirit, but only partially so in Ether, and insoluble in Oil of Turpentine.

(Same as Edin. U. S. and Fr.; not in Dub. or in other Pharmacopœias.)

Dose.—2 to 6 grs.

Jalapine, so largely prescribed, is nothing more than this Resin decolorized with Animal Charcoal, and may be given in the same dose, and, being in fine division, is less likely to irritate the bowels.

TINCTURA.

Jalap, in coarse powder, 1; Proof Spirit, 8: macerate forty-eight hours in 6 of the spirit, agitating occasionally, pack in a percolator, and when the fluid ceases to pass, pour on the remaining spirit.

(Lond. 1 to 8; Edin. 1 to 6; U. S. and Fr. 1 to 5; Belg. 1 to 6: not in Austr. or Pr.)

Dose.—½ to 2 drms.

2 fluid drachms equal 6 grains of Extract.

JUNIPERI OLEUM.

ENGLISH OIL OF JUNIPER.

$C_{15}H_{12}$, or $3C_5H_4$.

The Oil distilled in England from the unripe fruit.

Sp. g. 0·855. Of very superior flavour to the imported Oil.

Medicinal Properties.

Stimulant, carminative, and diuretic, the latter property constituting its chief medicinal value. Used in debilitated dropsical cases, either alone or combined with other diuretics.

Dose.—1 to 3 minims.

Preparation.

SPIRITUS.

English Oil of Juniper, 1; Rectified Spirit, 9: dissolve.

Contains about 95 times as much Oil of Juniper as Spiritus Juniperi, Lond.

(Lond. Edin. Dub. U. S. and Belg. were compound spirits; Austr. Fr. and Pr. simple, but very weak.)

Dose.—10 to 30 minims.

KAMELA.

KAMELA.

A granular, orange-red powder, adhering to the capsules of the *Rottlera tinctoria*; imported from India.

Test.—Ether dissolves most of it, the residue consisting principally of tufted hairs.

Medicinal Properties.

Successfully given in tænia. Preferred to Kousso and Turpentine.

(In U. S.; but not in other Pharmacopœias.)

Dose.—1 to 3 drachms of the powder suspended in Gruel, Mucilage, Treacle, or Syrup, will of itself expel the worm. A purgative should follow.

Not Officinal.

TINCTURA.—Kamela, 1; Proof Spirit, 5: macerate seven days and strain.

Dose.—1 to 2 drms.

KINO.

KINO.

The juice obtained, by incision, from the trunk of the *Pterocarpus Marsupium*, inspissated; imported from Malabar.

In small, angular, brittle, glistening, reddish-black fragments, translucent, and ruby-red on the edges.

Solubility: of 100 grains Tellicherry Kino, only 88 grains are dissolved by cold Water, and 35 grains of Isinglass will precipitate the whole of the astringent matter from the solution. As soluble as Catechu in water, but the solution is less astringent.

Medicinal Properties.

A powerful astringent. Employed in obstinate diarrhœa and pyrosis. Also used for intermittents, with Cinchona. Externally, as a styptic, and in powder to indolent and flabby ulcers. Best given in diluted Alcohol.

Contained in Pulvis Catechu Compositus.

Preparations.

PULVIS KINO CUM OPIO. *Syn.* PULV. KINO COMP., *Lond.*
Kino, in powder, 15; Opium, in powder, 1; Cinnamon, in powder, 4.

20 grains contain 1 grain Opium.

Dose.—5 grs. and upwards, according to the quantity of Opium required.

(Same as Lond.; not in Edin. Dub. or other Pharmacopœias.

TINCTURA.
Kino, in powder, 1; Rectified Spirit, 10: macerate seven days, filter, and make 10.

(Same as Lond. Edin. and U. S.; Belg. 1 to 6; not in Dub. Austr. or Pr.,

Dose.—½ to 2 drms.

KOUSSO or KUSSO.—*See* CUSSO.

KRAMERIA.

RHATANY.

The dried root of the *Krameria triandra*; imported from Peru.

Medicinal Properties.

A powerful astringent; tonic. Used in chronic diarrhœa, passive hæmorrhages and mucous discharges, as menorrhœa, leucorrhœa; and generally where Kino and Catechu are beneficial. As a gargle in relaxed sore-throat. Locally in prolapsus ani or fissura ani.

Contained in Pulvis Catechu Compositus.

Preparations.

EXTRACTUM.
Rhatany, in coarse powder, 3: Distilled Water, 36: macerate twenty-four hours in half the water, then percolate the whole. Evaporate, by a water-bath, to a proper consistence.

Dose.—20 to 40 grs.

(Same as Edin.; not in Lond. or Dub.; U. S. Belg. Fr.; Pr. and Austr. boiling water.)

INFUSUM.
Rhatany, bruised, 1; boiling Distilled Water, 20: infuse one hour and strain.

(Same as Lond. and Dub.; not in Edin.; U. S. 1 to 16; Fr. 1 to 100; not in other Pharmacopœias.)

Dose.—1 to 2 oz.

TINCTURA.
Rhatany, bruised, 1; Proof Spirit, 8: macerate forty-eight hours in 6 of

the spirit, agitating occasionally, pack in a percolator; when it ceases to drop, pour on the remaining spirit, and wash the marc with spirit to make up 8.

(Dub. and U. S. 1 to 5; not in Lond. Edin. or Fr.; Austr. 1 to 7: Belg. 1 to 6; Pr. 1 to 6.)

Dose.—2 to 3 drms.

Excellent for the teeth and gums when either spongy or inflamed.

Not Officinal.

LACTUCÆ EXTRACTUM.

LETTUCE OPIUM.

The inspissated juice from the flowers and stalks of the *Lactuca virosa.*

Medicinal Properties.—Sedative, narcotic; said also to be gently laxative, powerfully diuretic, and somewhat diaphoretic. Employed in dropsy and in cases of visceral obstruction. Generally combined with Squill, Digitalis, or other diuretics.

(*Lactucarium*, U. S. Edin. and Dub.; not in Lond.)

Dose.—8 to 10 grs., gradually increasing to 20.

(This extract has decided narcotic powers, although they have been doubted.)

LAUROCERASUS.

CHERRY-LAUREL LEAVES.

The fresh leaves of the *Prunus Laurocerasus*, cultivated in Great Britain.

Preparation.

AQUA.

Fresh leaves of common Laurel, 1 lb.; Water, 2½ pints: chop the leaves, crush them in a mortar, and macerate them in the water twenty-four hours; distil 1 pint of the liquid, using a Chloride of Zinc bath and a Liebig's condenser, shake the product, filter through paper, and preserve in a stoppered bottle.

(Same strength as Edin. Dub. Fr. Belg. and Austr.; not in U. S. or Pr.)

The Edinburgh preparation was coloured with Compound Spirit of Lavender.

Medicinal Properties.

Sedative. Similar to Hydrocyanic Acid, but of uncertain strength.

Dose.—½ to 1 drm.

LAVANDULÆ OLEUM.

ENGLISH OIL OF LAVENDER.

The Oil distilled in England from the flowers.

Medicinal Properties.

An aromatic stimulant and carminative. Useful in hysteria, hypochondriasis, and other nervous affections, also in flatulence and colic. Rarely given in a crude state. Used as an adjuvant to other medicines.

Dose.—3 to 10 minims.

Preparations.

SPIRITUS.

English Oil of Lavender, 1; Rectified Spirit, 9: dissolve.

(Edin. Austr. Pr. Fr. and U. S. very much weaker; not in Lond. Dub. and Belg.)

TINCTURA COMPOSITA.

English Oil of Lavender, 1½ drm.; English Oil of Rosemary, 10 minims; Cinnamon, bruised, 150 grs.; Nutmeg, bruised, 150 grs.; Red Sandal-wood, 300 grs.; Rectified Spirit, 2 pints: macerate the Cinnamon, Nutmeg, and Red Sandal-wood in spirit for several days, then press out and strain; dissolve the Oils in the strained tincture and add sufficient Rectified Spirit to make 2 pints.

(Similar to Lond. Edin. Dub. and U. S.; differs much from Belg.; not in Pr. Austr. and Fr.)

Dose.—½ to 1 drm. or more.

LIMON.

LEMON.

The ripe fruit of the *Citrus Limonum*, imported from Southern Europe.

LIMONIS CORTEX.

LEMON PEEL.

The fresh outer part of the rind.

Medicinal Properties.

A warm aromatic. Added to stomachic tinctures and infusions. Particularly applicable to dyspepsia.

Preparations.

OLEUM.

The Oil expressed or distilled from fresh peel; imported chiefly from Sicily.

Sp. g. 0·8517 as ordinarily procured. If three-fifths only are distilled, its sp. g. is reduced to 0·847.

Stimulant and carminative. Chiefly used, however, to impart flavour to other medicines. Externally, stimulant and rubefacient.

Dose.—1 to 5 minims.

Its flavour and aroma suffer much from keeping; it should always be procured as fresh as possible.

Contained in Spiritus Ammoniæ Aromaticus.

SYRUPUS.

Fresh Lemon Peel, 2; Lemon Juice, strained, 20; Refined Sugar, 36: add the Sugar and Peel to the Juice with a gentle heat; dissolve and strain. The product should weigh 56 and measure 41.

Sp. g. 1·340.

The Lemon Juice should be filtered from the suspended *mucus* in order to make a nice bright syrup.

(Same as Lond. Edin. U. S. and Austr. with the addition of the Rind of the Lemon.)

Dose.—1½ drm.

TINCTURA.

Fresh Lemon Peel, sliced thin, 1; Proof Spirit, 8: macerate for forty-eight hours with 6 of the spirit, pack in a percolator, and when it ceases to drop, wash the marc with the remaining spirit, press, filter, and make up to 8.

Percolation seems hardly necessary for this tincture.

(Lond. 1 to 10; Dub. 1 to 4; not in other Pharmacopœias.)

Dose.—1 to 2 drms.

LIMONIS SUCCUS.

LEMON JUICE.

The expressed juice of the ripe fruit.

To preserve the juice it may be heated to 150°, filtered and set aside in bottles completely filled. If this process be performed during the winter, it is said that the juice may be kept perfectly good for twelve months. Mr. Schweitzer states that if one-tenth part of Alcohol be added to fresh Lemon Juice, it prevents decomposition, and the juice is rendered fit for exportation.

Medicinal Properties.

Refrigerant; when diluted, a refreshing beverage in febrile and inflammatory affections.

In acute rheumatism ½ to 1 pint daily.
Used with Opium and Cinchona.
As a local application in pruritus scroti, and uterine hæmorrhage.

Dose.—½ drm. to 4 oz.

Contained in Syrupus Limonis.

Preparation.

ACIDUM CITRICUM.—*See* ACIDUM CITRICUM.

LINIMENTA.

LINIMENTS.

This group has received some valuable additions in the British Pharmacopœia. It was the desire of the Committee appointed to prepare it, to guard against mistakes by calling strong Tinctures that are employed for external use by the name of Liniments, and thus more clearly to distinguish them from the Tinctures, which have been hitherto used for both external and internal use, but which will henceforth be considered for internal use only.

The Linimentum Æruginis, Lond., Ammoniæ Compositum, Edin., Ammoniæ Sesquicarbonatis, Lond., were seldom used, and they, together with Linimentum Simplex, Edin., are omitted. Linimentum Cantharidis, made with oil, Dub., is substituted by an ethereal liniment, which blisters readily.

The following new Liniments are given in the British Pharmacopœia:—Linimentum Aconiti, Linimentum Belladonnæ, Linimentum Iodi, Linimentum Terebinthinæ Aceticum.

The following are the Liniments of the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared:—

	Proportion of the active ingredient to the whole.
LINIMENTUM ACONITI	1 in 1.
LINIMENTUM AMMONIÆ	1 in 4.
LINIMENTUM BELLADONNÆ	1 in 1.
LINIMENTUM CALCIS	1 in 2.
LINIMENTUM CAMPHORÆ	1 in 5.
LINIMENTUM CAMPHORÆ COMPOSITUM. (Two-thirds stronger of Ammonia than Lond.)	
LINIMENTUM CANTHARIDIS	1 in 2½.
LINIMENTUM CHLOROFORMI	1 in 2.
LINIMENTUM CROTONIS	1 in 8.
LINIMENTUM HYDRARGYRI	1 in 3.
LINIMENTUM IODI	1 in 4.
LINIMENTUM OPII (Tinct. Opii.)	1 in 2.
LINIMENTUM SAPONIS	1 in 8.
LINIMENTUM TEREBINTHINÆ	1 in 2½.
LINIMENTUM TEREBINTHINÆ ACETICUM	1 in 3.

LINUM.

FLAX.

The plant *Linum usitatissimum* is almost universally grown, the seeds only being of medicinal value, from which are procured the Meal and the Oil of Linseed.

LINI SEMEN.

LINSEED.

The seeds of the *Linum usitatissimum*, the envelope or testa of which abounds in a peculiar gummy matter or mucilage, readily imparted to hot water.

Medicinal Properties.

Demulcent and emollient. Employed in catarrh, dysentery, nephritic and calculous complaints, and inflammatory affections of the mucous membranes and urinary passages.

Preparations.

INFUSUM.

Linseed, 160 grs.; Liquorice Root, sliced, 60 grs.; boiling Distilled Water, 10 oz.: infuse four hours and strain.

(Same as Lond. Edin. and U. S.; not in Dub. or other Pharmacopœias.)

OLEUM.

The Oil contained in the inner part of the seed expressed without heat. Sp. g. ·927 to ·934.

A useful emollient to burns or scalds, either alone or mixed with Lime Water.

Linseed Oil, when issuing from the seed whilst pressing, has scarcely any of the odour or taste of the Linseed Oil of the shops, which is acquired by a very short exposure to the air. For medicinal purposes it should be procured as fresh as possible.

LINI FARINA.

LINSEED MEAL.

The seeds of the *Linum usitatissimum*, ground and deprived of the oil by expression.

Preparation.

CATAPLASMA.

Linseed Meal, 4; Olive Oil, ½; boiling Water, 10: mix the Linseed Meal with the Oil, add the Water gradually, constantly stirring.

Applied to inflamed and suppurating parts.

(Lond. only.)

Critics have said, why deprive the seeds of their oil only to add another oil? The answer is that Linseed should not be kept long after being crushed, for it soon becomes rancid, and the seeds are very troublesome to bruise when wanted; the powder keeps perfectly well, if dry, and the oil can at any time be added, and as Olive Oil answers the purpose and is sweet, it has been preferred for Cataplasms.

LIQUORES.

SOLUTIONS.

The Solutions of former Pharmacopœias which are omitted from the British are:—Liquor Aluminis Compositus, Lond.; Ammoniæ Citratis, Lond.; Ammoniæ Sesquicarbonatis, Lond. Edin.; Antimonii Tartaratus (*see* VINUM); Arsenici Chloridi, Lond.; Arsenici et Hydrargyri Hydriodatis, Dub.; Barii Chloridi, Lond. Edin. Dub.; Calcii Chloridi, Edin. Dub.; Cupri Ammonio-Sulphatis, Lond. Edin.; Hydrargyri Bichloridi, Lond.; Hydrargyri Pernitratis (*see* Liq. Hydr. Nitr. Acid.); Iodinii Compositus, Edin.; Morphiæ Acetatis, Lond. Dub.; Potassæ Carbonatis, Lond. Dub.; Potassæ Effervescens, Edin.; Potassii Iodidi Compositus, Lond. Edin. Dub.; Sodæ Carbonatis, Dub.; Sodæ Effervescens, Edin.; Zinci Chloridi, Dub.

The new Solutions introduced into the British Pharmacopœia are:—Liquor Atropiæ, Calcis Saccharatus, Chlori, Ferri Perchloridi, Hydrargyri Nitratis Acidus, Plumbi Subacetatis, Potassæ Permanganatis, Sodæ Arseniatis, Strychniæ.

The following are the Solutions of the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared:—

	Weight of solid in measures of fluid.
LIQUOR AMMONIÆ	same.
LIQUOR AMMONIÆ ACETATIS . .	5 times stronger.
LIQUOR AMMONIÆ FORTIOR	same.
LIQUOR ANTIMONII TERCHLORIDI . . .	a caustic.
LIQUOR ARSENICALIS	1 in 120.
LIQUOR ATROPIÆ	1 in 120.
LIQUOR CALCIS	1 in 800.
LIQUOR CALCIS CHLORATÆ	1 in 10.
LIQUOR CALCIS SACCHARATUS	1 in 60.
LIQUOR CHLORI	same.
LIQUOR FERRI PERCHLORIDI	1 in 1.
LIQUOR FERRI PERNITRATIS	1 in 7.
LIQUOR HYDRARGYRI NITRATIS ACIDUS	caustic.
LIQUOR MORPHIÆ HYDROCHLORATIS .	1 in 120.
LIQUOR PLUMBI SUBACETATIS	same.
LIQUOR PLUMBI SUBACETATIS DILUTUS	stronger.
LIQUOR POTASSÆ	1 in 15.
LIQUOR POTASSÆ PERMANGANATIS . .	1 in 120.
LIQUOR SODÆ	1 in 24.
LIQUOR SODÆ ARSENIATIS	1 in 120.
LIQUOR SODÆ CHLORATÆ	same.
LIQUOR STRYCHNIÆ	1 in 120.

LITHARGYRUM.

LITHARGE.

Syn. Plumbi Oxidum, *Lond.*

PbO.

In heavy scales of a pale brick-red colour.

Soluble in diluted Nitric Acid and in Acetic Acid.

Test.—It dissolves without effervescence in Nitric Acid diluted with 6 volumes of Water, and the solution, when supersaturated with Ammonia and then cleared by filtration, does not exhibit a blue colour—indicating absence of Copper.

Medicinal Properties.

Never used internally. It is an ingredient in various preparations for abating inflammation.

Preparation.

EMPLASTRUM. *Syn.* EMPLASTRUM PLUMBI, *Lond.*

Litharge, in very fine powder, 4; Olive Oil, 10; Water, 4: boil all the ingredients together gently in a copper pan over a clear fire and keep simmering for four or five hours, stirring constantly until the Oil and Litharge acquire a proper consistence for a plaster, adding more Water during the process if necessary.

This plaster of former Pharmacopœias wanted adhesiveness. The formula of the British Pharmacopœia directs long boiling, which secures sufficient tenacity, and it then resembles the famous strapping-plaster of Dr. Scott, of Bromley.

(In all the Pharmacopœias.)

LITHIA.

LITHIA.

The Oxide of the alkaline metal Lithium (L; eq. 7), a silver-white, brilliant, ductile metal, having the density of 0·59, being therefore the lightest metal known.

This oxide was introduced into medicinal use by Dr. Garrod. It was discovered in 1817, by Arfvedson. It is obtained from several minerals,—Petalite, Lepidolite, or Tryphilline, from the latter of which the Author has chiefly prepared it. The process is tedious and difficult, and probably on that account omitted from the British Pharmacopœia.

The Carbonate and Citrate are the only preparations employed therapeutically.

LITHIÆ CARBONAS.

CARBONATE OF LITHIA.

LO,CO_2; eq. 37.

In white powder or in minute crystalline grains.

Solubility: in cold Water, 1 in 100. Insoluble in Alcohol.

Test.—10 grains of the Salt neutralized with Sulphuric Acid and afterwards heated to redness, leave 14·86 grains of dry Sulphate of Lithia, which, when redissolved in Distilled Water, yields no precipitate with Oxalate of Ammonia or Solution of Lime—indicating absence of Lime.

Medicinal Properties.

Lithia, combined with Carbonic Acid, given in a diluted solution, as in Lithia Water, acts as a powerful diuretic, probably more so than the corresponding Salts of Potash or Soda. In certain states of the system in which Urate of Soda is liable to be deposited in the tissues, leading to the production of gouty inflammation, the administration of Lithia Salts is attended with advantage, probably by aiding elimination and likewise by assisting the solution of the urate in the animal fluids.

Dose.—3 to 6 grs.

A new introduction.

LITHIÆ CITRAS.

CITRATE OF LITHIA.

$3LO,C_{12}H_5O_{11}$.

A white, deliquescent, amorphous powder, made by acting upon 50 grains of Carbonate of Lithia with 100 grains of Citric Acid instead of 90 as directed by the Pharmacopœias.

Solubility: in Water, 1 in 2½, without leaving any residue.

Test.—20 grains of the Salt, burned at a low red-heat, with free access of air, leaves 10·6 grains of white residue: Lithia.

Medicinal Properties.

Similar to those of the Carbonate.

A new preparation.

LOBELIA.

LOBELIA.

The herb *Lobelia inflata* in flower, dried; imported from North America.

Medicinal Properties.

In small doses it is diaphoretic and expectorant. More freely used, it is cathartic and emetic; but as an emetic it is too distressing as well as too hazardous for general use, as it has a powerful effect on the respiration, frequently causing death. It is chiefly used in spasmodic asthma, also in catarrh and other laryngeal and pectoral affections, severe croup, and chronic bronchitis. In some cases a useful adjunct to diuretics.

Dose.—5 to 20 grs. of powder for an emetic.

Preparations.

TINCTURA.

Lobelia, dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain, pour on the remaining spirit, and when it ceases to drop, press and wash the marc with spirit to make up 8.

(Same as Lond. Edin. Dub. and U. S.; Belg. 1 to 6; Pr. and Austr. 1 to 7½; not in Fr.)

Dose.—½ to 1 drm. as an antispasmodic; 4 drms. as an emetic.

TINCTURA ÆTHEREA.

Lobelia, dried and bruised, 1; Spirit of Ether, 8: macerate seven days, press, and percolate 8.

(Same strength as Lond. and Edin.; not in Dub.; Belg. 1 in 6; not in others.)

Dose.—½ to 1 drm.

LUPULUS.

HOP.

The dried catkins of the female plant of the *Humulus Lupulus.*

Medicinal Properties.

Tonic, stomachic, and moderately narcotic. Used in diseases of local debility with morbid vigilance and other nervous derangement, producing sleep where opiates are objectionable. Hops may be used topically as fomentation or poultice, as a resolvent or discutient in painful swellings and tumours.

The golden dust or scale of the Hop (Lupulin) is sometimes conveniently used in doses of 5 to 10 grs.

Very freshly dried Hops, made into a pillow, procure sleep.

Preparations.

EXTRACTUM.

Hop, 8; Rectified Spirit, 15; Distilled Water, 80: macerate the Hop in the spirit for seven days, press out the tincture, filter, and distil off the spirit, leaving a soft extract; boil the residual Hop with the Water for one hour, then express the liquor, strain, and evaporate by a water-bath to the consistence of a soft extract; mix the two extracts and evaporate at a temperature not exceeding 140° F., to a proper consistence.

(In Lond. and Edin., but without spirit; not in Dub.; Austr. and Belg. alcoholic; not in Pr.)

Dose.—5 to 10 grs.

INFUSUM.

Hops, 1; boiling Distilled Water, 20: infuse four hours and strain.

(Lond. 1 to 27; U. S. 1 to 32; not in Edin. Dub. or other Pharmacopœias.)

Dose.—1 to 2 oz.

TINCTURA.

Hop, 1; Proof Spirit, 8: macerate forty-eight hours in 6 of the spirit, agitating occasionally, pack in a percolator, let it drain, add the remaining spirit, and when fluid ceases to drop, wash the marc, filter, and make up 8.

(Lond. 1 to 7; U. S. 1 to 5; Dub. and Edin. made with Lupuline; not in other Pharmacopœias.)

Dose.—½ to 2 drms.

MAGNESIUM.

Mg; eq. 12.

Magnesium, the metallic base of Magnesian Salts, does not exist native. It may be obtained artificially. When set on fire it produces a powerful actinic light, and is used by photographers on this account.

It is a brilliant grey metal, sp. g. 2·200, slightly resembling Silver, malleable, fusible at a low temperature, and convertible into Magnesia by the combined action of air and moisture.

Sulphate of Magnesia was first artificially obtained in England by Dr. Grew, in 1675, by evaporation from the water of Epsom Spring (whence the name of Epsom Salts). The chief source of the Magnesia now sold is Magnesian Limestone, Double Carbonate of Magnesia and Lime, called Dolomite, and is obtained by a process discovered by Dr. Henry, of Manchester. It was first chemically distinguished from Lime by Dr. Black, in 1755, who showed the difference between Magnesia and its carbonate. From the mode of procuring it, it is frequently termed Calcined Magnesia.

There are two kinds of Magnesia admitted into the Pharmacopœia, the heavy and the light. The former is that which is commonly used in pharmacy, it being smoother, more readily miscible with water, and is more compact. It is probable from these causes that it is preferred in medicine, and in the Pharmacopœia it is clearly meant to be used, unless the light is expressly ordered.

The forms in which Magnesia is used are:—Magnesia, M. Levis, Magnesiæ Carbonas, M. Carbonas Levis, and M. Sulphas.

MAGNESIA.

MAGNESIA.

MgO; eq. 20.

Heavy Carbonate of Magnesia, heated in a Cornish crucible until all the Carbonic Acid is driven off.

It is a white, heavy powder, scarcely soluble in water, but readily dissolved by acids without effervescence. Its solution in Hydrochloric Acid, when neutralized by a mixed solution of Ammonia and Hydrochlorate of Ammonia, gives a copious crystalline precipitate when Phosphate of Soda is added to it.

Solubility: in cold water, 1 in 5412; in hot water, 1 in 36,000; like lime, it is more soluble in cold than in hot water.

Test.—Dissolved in Nitric Acid and neutralized with a mixture of Ammonia and Hydrochlorate of Ammonia, it does not give any precipitate with Oxalate of Ammonia or Chloride of Barium—indicating absence of Lime and Sulphates.

Medicinal Properties.

Antacid, laxative, and antilithic. Much used in dyspepsia, heartburn, sick headache, gout, and other complaints attended with acidity and constipation. As a laxative, it may often be used with advantage when other medicines occasion nausea; generally combined with other purgatives. It is an excellent and mild purgative for children.

It frequently solidifies in draughts, especially when prescribed with the sulphate.

(In Dub.; not in any other Pharmacopœia.)

MAGNESIA LEVIS.

LIGHT MAGNESIA.

MgO.

Light Carbonate of Magnesia, heated in a Cornish crucible until all the Carbonic Acid is driven off.

A bulky white powder, differing from Magnesia (heavy Magnesia) only in its great levity, the volumes corresponding to the same weight being in the ratio of 3½ to 1.

It does not mix so readily with water nor does it make so smooth a draught as the heavy.

Test.—Does not effervesce with Acids.

(In all the Pharmacopœias.)

Dose.—15 to 30 grs.

Contained in Pulvis Rhei Comp.

MAGNESIÆ CARBONAS.

CARBONATE OF MAGNESIA.

Syn. MAGNESIÆ CARBONAS PONDEROSUM, *Dub.*

$3(MgO,CO_2,+HO)+MgO,2HO$.

A white granular powder, precipitated from a boiling solution of Sulphate of Magnesia by a solution of Carbonate of Soda, the whole evaporated to dryness, and the dry residue digested in water and collected on a filter and washed, so that the Sulphate of Soda is entirely washed out.

Test.—With excess of Hydrochloric Acid it forms a clear solution, in which Chloride of Barium causes no precipitate—indicating absence of Sulphuric Acid. Another portion of the solution, supersaturated with Ammonia, gives no precipitate with Oxalic Acid—indicating absence of Lime. 50 grains calcined at red-heat are reduced to 22.

(Dub.; not in any other Pharmacopœia.)

Dose.—20 to 40 grs.

MAGNESIÆ CARBONAS LEVIS.

LIGHT CARBONATE OF MAGNESIA.

$3(MgO,CO_2+HO)+MgO,2HO.$

A very light powder, precipitated cold from Sulphate of Magnesia solution by Carbonate of Soda, the precipitate being washed in boiling water until the washings do not precipitate with Chloride of Barium. When examined under the microscope, it is found to be partly amorphous, with numerous slender prisms intermixed. In other respects it is similar to Magnesiæ Carbonas.

Solubility: in cold water, 1 in 2493; in hot water, 1 in 9000.

Fluid Magnesia is prepared by impregnating water with Carbonic Acid under pressure in which freshly precipitated Carbonate of Magnesia is suspended.

(In all the Pharmacopœias except Fr.)

Dose.—20 to 40 grs.

MAGNESIÆ SULPHAS.

SULPHATE OF MAGNESIA.

$MgO,SO_3+7HO.$

In minute, colourless, transparent, rhombic prisms, possessing a bitter taste.

Solubility: in cold water, 10 in 13.

Test.—The aqueous solution, at ordinary temperatures, is not precipitated by Oxalate of Ammonia—indicating absence of Lime. The precipitate given by Carbonate of Soda, when obtained from a boiling solution of 100 grains of the salt, should, when well washed, dried, and heated to redness, weigh 16·26 grains.

Preparation.

ENEMA. *Syn.* Enema Catharticum, *Edin. Dub.*

Sulphate of Magnesia, 1; Olive Oil, 1; Mucilage of Starch, 15: dissolve the Magnesia in the Mucilage, then add the Oil.

(Edin. Dub.; not in any other Pharmacopœia.)

MANNA.

MANNA.

A concrete exudation from the stem of the *Fraxinus Ornus*, obtained by incision; imported from Sicily and the south of Europe.

Soluble in Water, 1 in 5; and Rectified Spirit.

Medicinal Properties.

Nutritious, particularly when recent. A mild laxative; does not excite inflammation; useful for children and delicate females.

(In all the Pharmacopœias.)

Dose.—As a laxative, from 1 to 2 oz.

MASTICHE.

MASTICH.

A resinous exudation from the stem of the *Pistacia Lentiscus*, obtained by incision; imported from Turkey and the Levant.

Solubility: insoluble in Water; wholly soluble in Ether, Chloroform, and Oil of Turpentine; scarcely soluble in fixed Oils.

Sp. g. 1·074.

Medicinal Properties.

Stimulant. Chiefly prescribed in pills to divide active medicines, and especially with mercurials when the pills are to be silvered, to prevent the silver being acted on by the mercury.

(In all the Pharmacopœias.)

Dose.—In powder, ½ to 2 drms.

Cotton, saturated in a solution of 4 parts of Mastich with 1 of Ether, is a good stopping for decayed teeth.

MATICA.

MATICO.

The dried leaves of *Artanthe elongata*, from Peru.

Medicinal Properties.

A agreeable aromatic tonic and stimulant, influencing the urinary passages. Locally (in substance) as a styptic, on the supposition that its action is mechanical. Its styptic properties, however, may depend on the Terebinthinate Oil it contains.

Dose.—Of the powder, ½ to 2 drms. three times daily.

Preparation.

INFUSUM.

Matico, cut small, 1; boiling Distilled Water, 20: infuse half an hour, and strain.

(Same as Dub.; not in Lond. or Edin. or other Pharmacopœias.)

Dose.—1 to 2 oz.

Not Officinal.

Tinctura (Dub.).—Matico leaves, in coarse powder, 1; Proof Spirit, 5: macerate fourteen days, strain, express and filter.

Astringent. Useful in catarrh of the bladder of the aged.

Dose.—1 to 2 drms.

MEL.

HONEY.

A saccharine secretion deposited by the Hive Bee in the honeycomb.

Test.—Boiled with Water for five minutes, and allowed to cool, it does not become blue with the Solution of Iodine—indicating absence of Flour.

Medicinal Properties.

Demulcent and laxative, but apt to gripe and occasion flatulency when given in efficient doses; this is more particularly the case with old honey. It is more generally used as a vehicle for other medicines. A useful addition to gargles. An external application to foul ulcers.

Preparations.

MEL BORACIS.—*See* BORAX.

MEL DEPURATUM. Clarified Honey.

Melt in a water bath, and strain while hot through flannel previously moistened with warm water.

OXYMEL.

Clarified Honey, 8; Acetic Acid, 1; Distilled Water, 1: liquefy the Honey by heat, and mix.

A pleasant addition to Gargles. Sometimes used as a vehicle to expectorant medicines, and to flavour fever drinks.

(In all the Pharmacopœias.)

Dose.—2 drms. to ½ oz.

Mel Rosæ is omitted from the Pharmacopœia.

MENTHÆ PIPERITÆ OLEUM.

ENGLISH OIL OF PEPPERMINT.

The Oil distilled in England from the *Mentha piperita* when in flower. Sp. g. 0·920.

Medicinal Properties.

A grateful aromatic, stimulant, and carminative. Allays nausea, relieves spasmodic pains in the stomach, expels flatus. Covers the taste of nauseous medicines, such as Rhubarb, and mitigates the griping effect of purgatives. Useful in the flatulent colic of children.

The fresh herb, bruised, and applied to the epigastrium, often allays sickness, and is useful in cholera infantum.

(Lond. and Edin.; not in Dub. In all other Pharmacopœias.)

Dose.—2 to 5 minims on sugar, or in emulsion.

Preparations.

AQUA.

English Oil of Peppermint $1\frac{1}{2}$ drm.; Water, $1\frac{1}{2}$ gall.: distil 1 gall.

(Same as Dub.; U. S. twice the strength; Lond. Edin. Austr. Pr. and Fr. with the herb.)

Dose.—$\frac{1}{2}$ to 3 oz.

SPIRITUS.

English Oil of Peppermint, 1; Rectified Spirit, 9: dissolve.

Contains about 48 times as much Oil of Peppermint as Sp. Menth. Pip., Lond.

(Lond. 1 to 435; U. S. 1 to 15; Edin. from fresh herb; Austr. and Fr. from dry herb; not in Belg. or Pr.)

Dose.—10 to 30 minims.

MENTHÆ VIRIDIS OLEUM.

ENGLISH OIL OF SPEARMINT.

The Oil distilled in England from the *Mentha viridis* when in flower.

Medicinal Properties.

Similar to those of Oleum Menthæ Piperitæ.

(Not in Edin.; in others.)

Dose.—2 to 5 minims on sugar, or in emulsion.)

Preparation.

AQUA.

English Oil of Spearmint, $1\frac{1}{2}$ drm.; Water, $1\frac{1}{2}$ gall.: distil 1 gall.

(Same as Dub.; U. S. twice the strength; Lond. Edin. Austr. Belg. from dry herb; not in Pr.)

Dose.—1 to 3 oz.

MEZEREUM.

MEZEREON.

The dried bark of the *Daphne Mezereon.*

Medicinal Properties.

A stimulant, acting on the kidneys. Rarely used alone. With Sarsaparilla it is employed as a sudorific and alterative in venereal, rheumatic, scrofulous, and chronic cutaneous diseases. Applied to the skin, it produces inflammation and vesication, though slow in action.

The bark soaked in hot vinegar-and-water is applied with a compress to produce a blister: ointment of the bark is used to keep issues or blisters open.*

Contained in Decoctum Sarsæ Compositum.

MISTURÆ.

MIXTURES.

The following mixtures, which were in former Pharmacopœias, are omitted from the British:—Mistura Acaciæ (*see* MUCILAGO ACACIÆ); Althææ, Edin.; Camphoræ, Lond. Edin. Dub. (*see* AQUA CAMPHORÆ); Camphoræ cum Magnesia, Edin.; Ferri Aromatica, Dub.; Gentianæ Composita, Lond.; Hordei, Lond. and Edin.; Spiritus Vini Gallici, Lond.

The following are the mixtures of the British Pharmacopœia:—

	Proportions.
MISTURA AMMONIACI . . .	1 in 32.
MISTURA AMYGDALÆ.	
MISTURA CREASOTI . . .	1 minim in 1 oz., or 1 in 480.
MISTURA CRETÆ	14 grs. in 1 oz., or 1 in 32.
MISTURA FERRI COMPOSITA.	1 in 128.
MISTURA GUAIACI.	11 grs. in 1 oz., or 1 in 40.
MISTURA SCAMMONII . . .	2 grs. in 1 oz., or 1 in 240.

MORI SUCCUS.

MULBERRY JUICE.

The juice of the ripe fruit of the *Morus nigra.*

Medicinal Properties.

Refreshing and laxative; serves to prepare a grateful drink well adapted to febrile cases.

Preparation.

SYRUPUS.

Mulberry Juice, 20 oz.; Refined Sugar, 2 lb.; Rectified Spirit, 2½ oz.: dissolve the Sugar in the Juice by a gentle heat; remove the scum, and add the spirit; the product should weigh 54 oz. Sp. g. 1·330.

(Lond. Fr. Austr. and Belg; not in Edin. Dub. U.S. and Pr.)

An agreeable addition to a gargle for sore throat.

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* The Author, in Pharm. Journ. vol. i., exposed the practice of herbalists selling the root of *Daphne Laureola* for that of *Daphne Mezereon*, and reported some experiments made to ascertain their relative values.

MORPHIÆ HYDROCHLORAS.

HYDROCHLORATE OF MORPHIA.

Syn. Morphiæ Murias, *Edin. Dub.*

The Hydrochlorate of an Alkaloid, $C_{34}H_{19}NO_6,HCl+6HO$, prepared from Opium.

In white, flexible, acicular prisms of a silky lustre.

Solubility: in Water, 1 in 20; in Spirit, 1 in 90.

Test.—Entirely destructible by heat, leaving no residue. 20 grains of the Salt, dissolved in half an ounce of warm water, with Ammonia added in the slightest possible excess, gives, on cooling, a crystalline precipitate, which, when washed with a little cold water, and dried by exposure to the air, weighs 15·18 grains—pure Morphia.

As pure Morphia is insoluble in Water, it is rarely used in medicine, the Salts only are used. Of these, the Pharmacopœia has selected the Hydrochlorate as being the most uniform in its composition.

Medicinal Properties.

Morphia possesses the anodyne and soporific powers of Opium, yet it acts more agreeably, being less likely to produce headache and nausea. It is also less exciting and stimulating than Opium.

Preparations.

LIQUOR.

Hydrochlorate of Morphia, 4 grs.; Dilute Hydrochloric Acid, 8 minims; Rectified Spirit, 2 drms.; Distilled Water, 6 drms: dissolve.

(Same as Edin. and Dub. 4 grs. to 1 oz.; Lond. 8 grs. to 1 oz.; not in any other.)

Each fluid drachm contains half a grain.

Dose.—15 to 30 minims, as Tinct. Opii.

SUPPOSITORIA.

Hydrochlorate of Morphia, 3 grs.; Refined Sugar, 30 grs.; Prepared Lard, a sufficiency; White Wax, a sufficiency: melt Lard, 30 grs.; Wax, 30 grs., in a water-bath, then mix them thoroughly with the Morphia and Sugar, previously rubbed together. Divide into 12 suppositories, dip them into a melted mixture of Wax, 3; Lard, 8.

Each suppository contains $\frac{1}{4}$ grain of Hydrochlorate of Morphia.

A new preparation.

TROCHISCI.

Hydrochlorate of Morphia, 20 grs.; Tincture of Tolu, $\frac{1}{2}$ oz.; Refined Sugar, in powder, 24 oz.; Gum Arabic, in powder, 1 oz.; Mucilage of Gum Arabic, 2 oz., or a sufficiency; boiling Distilled Water, $\frac{1}{2}$ oz.: divide the mass into 720 lozenges.

Each lozenge contains $\frac{1}{36}$ gr. of Hydrochlorate of Morphia. (Edin. only.)

TROCHISCI MORPHIÆ ET IPECACUANHÆ.

Hydrochlorate of Morphia, 20 grs.; Ipecacuan, in fine powder, 60 grs.;

Tincture of Tolu, $\frac{1}{2}$ oz.; Refined Sugar, in powder, 24 oz.; Gum Arabic, in powder, 1 oz.; Mucilage of Gum Arabic, 2 oz., or a sufficiency; boiling Distilled Water, $\frac{1}{2}$ oz.: divide the mass into 720 lozenges.

Each lozenge contains $\frac{1}{36}$ gr. of Hydrochlorate of Morphia, and $\frac{1}{12}$ of Ipecacuan. (Edin. only.)

MORRHUÆ OLEUM.

COD LIVER OIL.

The Oil extracted from the fresh liver of the *Gadus Morrhua* by a steam-heat not exceeding 180°.

Sp. gr. from 0·915 to 0·929.

Medicinal Properties.

It has long been employed in the north of Europe in rheumatic and strumous diseases, and was first recommended to the profession generally by the German practitioners; but it was not till the appearance of Professor Bennet's treatise in 1841 that it came into general use in England.

Its value is thought to depend on the iodine contained in it, but it is rarely found in the best oil in greater proportion than ·05 per cent.

Demulcent and nutrient. Most efficient in scrofulous diseases, glandular swellings, diseases of the joints, tabes mesenterica, rickets and chronic rheumatism; and generally in all chronic cases of impaired digestion, assimilation, and nutrition. In pulmonary consumption it deservedly possesses a high reputation.

Dose.—1 to 4 drms. on Orange Juice, water, or with a mixture of Tincture of Orange with Nitric Acid and Syrup.

MOSCHUS.

MUSK.

The inspissated and dried secretion from the preputial follicles of the *Moschus moschiferus*, a native of Thibet and other parts of Central Asia.

In grains or lumps concreted together, soft and unctuous to the touch, of a reddish-brown or ferruginous colour, having a strong and peculiar odour; contained in an oval sac or membrane about two inches in length.

Ether is a good solvent of Musk.

Medicinal Properties.

Stimulant and antispasmodic, increasing the vigour of the circulation without materially affecting the cerebral functions. It may be given in almost all spasmodic diseases, particularly in cases of great prostration with intense nervous excitement.

Dose.—5 to 10 grs. in pill or mixture.

Not Officinal.

Mistura (Lond.).—Musk, 3; Acacia, 3; Sugar, 3; Rose Water, 160: triturate the Musk with the Sugar, then with the Acacia; add the Rose Water gradually.

Dose.—1 to 2 oz.

MUCILAGINES.

MUCILAGES.

Mucilages are employed more as vehicles than as remedies. Mucilage of Acacia is sometimes given to relieve irritating cough, but more generally to render Oils and solutions of Resins miscible with Water. M. Amyli, for Enemas; M. Tragacanthæ, for Lozenges, and also for suspending heavy powders in mixtures, in preference to M. Acaciæ.

Mucilago Hordei, Dub., is the only one of the former Pharmacopœias which is omitted, and is replaced by Decoctum Hordei in the British Pharmacopœia.

The Mucilagines retained are:—

MUCILAGO ACACIÆ.
MUCILAGO AMYLI.
MUCILAGO TRAGACANTHÆ.

MYRISTICA.

NUTMEG.

The kernel of the seed of the *Myristica officinalis*, imported from Sumatra and the Molucca Islands.

Medicinal Properties.

Aromatic, stimulant, and carminative. Chiefly used to cover the taste of rhubarb and other medicines.

Dose.—5 to 15 grains.

Contained in Pulvis Aromaticus, Tinctura Lavandulæ Composita.

ADEPS. Concrete Oil of Nutmegs.
A concrete oil, obtained from Nutmegs by expression and heat.

(Lond. and Edin.; not in other Pharmacopœias.)

OLEUM.
The oil distilled from Nutmegs in England. This injunction of the British Pharmacopœia is necessary, the foreign oil being very much inferior to the English distilled.

(In all the Pharmacopœias.)

Dose.—2 to 6 minims on sugar, or in emulsion.

SPIRITUS.
Volatile Oil of Nutmeg, 1; Rectified Spirit, 9: dissolve.

(Lond. and Edin. and U. S. very weak preparations; not in Dub. or any other Pharmacopœias.)

Dose.—10 to 20 minims.

MYRRHA.

MYRRH.

A gum-resinous exudation from the stem of the *Balsamodendron Myrrha*, collected in Arabia Felix and Abyssinia.

In irregular-shaped tears, of a reddish-yellow or reddish-brown colour.

Solubility: partially in Water, Alcohol, and Ether.

Medicinal Properties.

A stimulant tonic. Useful in humid asthma and chronic catarrh; also in chlorosis and defective menstruation.

Dose.—10 grs. to 1 drm.

Contained in Decoctum Aloes Compositum, Pilula Aloes et Myrrhæ, Pilula Rhei Composita.

Preparation.

TINCTURA.

Myrrh, in coarse powder, 1; Rectified Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator, and when it ceases to drop, pour on the remaining spirit, wash the marc, press, and make up to 8.

(Lond. U. S. 1 to 12; Edin. and Dub. 1 to 10; Austr. Pr. same as Brit.; Belg. 1 to 6; Fr. 1 to 5.)

Dose.—½ to 1 drm. More frequently used mixed with water to form a gargle.

TINCTURE OF MYRRH AND BORAX.—*See* BORAX.

NECTANDRA.

BEBEERU BARK.

The bark of the *Nectandra Rodiæi*, imported from British Guiana.

This bark is intensely bitter, and contains an alkaloid, Bebeerin ($C_{38}H_{21}NO_6$), very soluble in Alcohol, less so in Ether, and very slightly in Water. The Sulphate is chiefly used.

Medicinal Properties.

Tonic and antiperiodic. Used in remittent and intermittent fevers, though not to be relied on as a substitute for the Sulphate of Quinia.

Preparation.

BEBERIÆ SULPHAS.—*See* BEBERIÆ SULPHAS.

NUX VOMICA.

NUX VOMICA.

The seeds of the *Strychnos Nux-vomica*, imported from the East Indies.

Medicinal Properties.

In very small doses, tonic, and laxative by stimulating the muscular coat of the bowel. In larger doses it operates on the whole system through the spinal motor nerves, indicated by involuntary muscular contractions. Useful in palsy and all paralytic affections, and in cases of feeble contractile powers. It is recommended in chorea and atonic dropsy, and in debilitated conditions of the alimentary canal. The extract and tincture are the preparations generally prescribed.

Dose.—Of the powder, 1 to 3 grs.

Preparations.

STRYCHNIA.—*See* STRYCHNIA.

EXTRACTUM.

Soften Nux Vomica by steam, dry rapidly, and reduce to fine powder; boil with Rectified Spirit until exhausted, strain, distil off the spirit, and evaporate to a proper consistence.

(Same as Lond. Edin. U. S. Austr. Pr. Belg.; not in Dub.)

Dose.—$\frac{1}{3}$ to 1 gr.

TINCTURA.

Nux Vomica, 1; Rectified Spirit, 10: soften the Nux Vomica by steam, dry rapidly, and reduce to fine powder. Macerate forty-eight hours in three-fourths of the spirit, agitating occasionally, pack in a percolator, let it drain, pour on the remaining spirit, and when it ceases to drop, press, filter, and make up to 10.

(Not in Lond. Edin. Dub. Pr. and Belg.; U. S. 1 in 4; Fr. 1 in 5; Austr. 1 in 7.)

Dose.—10 to 30 minims.

OLEA.

OILS.

The Oils ordered in the Pharmacopœia consist of expressed and distilled oils: viz. the expressed are those of the Almond and the Olive, which are chiefly used for ointments and liniments; Castor and Linseed Oil appear in the Materia Medica, but are not used for preparations; Croton is the last seed-oil ordered, and is used for Linimentum Crotonis; we have also the expressed oil from the Lemon-rind. All the other oils are obtained by distillation.

The following Oils, found in former Pharmacopœias, are now omitted:—Oleum Æthereum, Lond.; Copaibæ, Edin.; Fœniculi, Lond.; Cassiæ, Edin.; Bergamotæ, Edin.; Aurantii, Edin. Dub.; Pulegii, Lond.; Rosæ, Edin. Dub.; Succini, Dub.

The following are newly introduced:—Oleum Coriandri, Cubebæ.

The following are the Oils of the British Pharmacopœia, and will be found under the names of the substances from which they are derived:—

OLEUM AMYGDALÆ. Expressed from the seed.

OLEUM ANETHI. Distilled from the fruit.

OLEUM ANISI. Distilled from the fruit and imported.
OLEUM ANTHEMIDIS. Distilled from the flowers.
OLEUM CAJUPUTI. Distilled from the leaves and imported.
OLEUM CARUI. Distilled from the fruit.
OLEUM CARYOPHYLLI. Distilled from the flower-bud.
OLEUM CINNAMOMI. Distilled from the bark.
OLEUM COPAIBÆ. Distilled from the Oleo-resin.
OLEUM CORIANDRI. Distilled from the fruit.
OLEUM CROTONIS. Expressed from the seeds.
OLEUM CUBEBÆ. Distilled from the unripe fruit.
OLEUM JUNIPERI. Distilled from the unripe fruit.
OLEUM LAVANDULÆ. Distilled from the flowers.
OLEUM LIMONIS. Expressed from the fresh peel and imported.
OLEUM LINI. Expressed from the seeds.
OLEUM MENTHÆ PIPERITÆ. Distilled from the fresh herb.
OLEUM MENTHÆ VIRIDIS. Distilled from the fresh herb.
OLEUM MORRHUÆ. Extracted from fresh liver by heat.
OLEUM MYRISTICÆ. Distilled from the seed kernel.
OLEUM OLIVÆ. Expressed from the fruit and imported.
OLEUM PIMENTÆ. Distilled from the unripe berry.
OLEUM RICINI. Expressed from the seeds and imported.
OLEUM ROSMARINI. Distilled from the flowering tops.
OLEUM RUTÆ. Distilled from the fresh leaves and fruit.
OLEUM SABINÆ. Distilled from fresh Savin.
OLEUM TEREBINTHINÆ. Distilled from Turpentine and imported.

OLIVÆ OLEUM.

OLIVE OIL.

The Oil expressed from the fruit of the *Olea Europæa*, in the south of Europe.

Sp. g. 0·9153.

Solubility: in Ether, 1 in 2; partially in Rectified Spirit.

Medicinal Properties.

Nutritious, and mildly laxative. Internally, as a demulcent, in the form of emulsion. Used in laxative enemata. It is most extensively used in pharmacy in liniments, ointments, and plasters.

Contained in Linimentum Calcis, Linimentum Camphoræ, and Cataplasma Lini.

OPIUM.

OPIUM.

The inspissated juice of the *Papaver somniferum*, obtained from the unripe capsules, grown in Asia Minor.

Opium is derived almost exclusively from the *Papaver somniferum.* This plant was cultivated by the early Greeks, and is at present grown for its Opium, in India, Persia, Egypt, and Asiatic Turkey. In France and Germany, it is cultivated more for the sake of its seed, and in England for its capsules. The process of wounding the capsules and collecting the Opium has continued the same for the last 1800 years.* Smyrna Opium, and also that of Constantinople, is employed in this country. Specimens of Persian Opium in fingers, of Patna in squares, of Benares in balls covered with skin, and Egyptian in flat pieces like that of Constantinople, are to be found in several museums. Good Smyrna Opium yields, according to Mulder, from 9 to 11 per cent. of Morphia, together with Codeia, Narcotine, Papaverin, Paramorphia (Thebaica), Narceine, Meconin, Meconic Acid, Opianine, besides extractive and fatty matters.

MORPHIA.—Discovered by Sertuener. Crystallizes in nearly white, flat, six-sided prisms, alkaline in reaction, soluble in Alcohol, *soluble, without decomposition, in solution of Potash*, insoluble in Water or Ether, forming crystallizable salts with acids. It is coloured intensely yellow by Nitric Acid, and blue by Perchloride of Iron. Intensely bitter.

CODEIA.—Discovered by Robiquet, in 1832. It crystallizes in white octahedrons, alkaline in reaction. Soluble in Water, Ether, and Alcohol; *insoluble in solution of Potash.* It does not become red with Nitric Acid, nor blue with Persalts of Iron. It exists in Opium, combined with Meconic Acid, like Morphia, and in the preparation of the Muriate of Morphia is extracted with it. From the mixed solution, Morphia is thrown down by Ammonia, when the Codeia is left in solution, and may be obtained by evaporation; it is redissolved in hot Ether, which on evaporation leaves the Codeia. It forms crystalline salts with acids. It has been said that its therapeutic action is like that of Morphia. Dr. Gregory took 3 grains without any effect, and he found that it required a dose of 4 or 6 grains to produce sensible effects; but it did not procure sleep.

NARCOTINE.—First noticed by Derosne, in 1803. In thin pearly tables. It is neutral. Insoluble in Water; soluble in Ether, in boiling Alcohol, in dilute acids; *insoluble in solution of Potash.* Forms a yellow solution with Nitric Acid and a blue one with Perchloride of Iron. It has no narcotic properties, and has therefore been called Anarcotine; it has been used in 5-grain doses as a substitute for Quinia.

PAPAVERIN.—Discovered by Dr. Merck. In white crystalline needles. Insoluble in Water; sparingly soluble in Alcohol and Ether. Moistened with strong Sulphuric Acid, it becomes dark blue.

PARAMORPHIA (Thebaica).—Discovered by Pelletier. In white crystalline needles. Soluble in Water, in Alcohol, 1 in 10, and in Ether. Unites with acids. Not reddened by Nitric Acid, nor rendered blue by Persalts of Iron. In doses of 1 grain it produces tetanic spasms.

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* An interesting account of this process is given by Mr. Maltass, in the 'Pharmaceutical Journal,' March, 1864.

NARCEINE.—Discovered by Pelletier, in 1832. In white, silky, acicular crystals: neutral, with a slightly bitter taste. Soluble in 375 parts of cold and in 220 of hot Water, also in Alcohol; insoluble in Ether. It forms a bluish colour with Iodine, which is destroyed by heat; but it is not reddened by Nitric Acid. The dilute mineral acids impart to this substance a fine light blue colour, which disappears on the further addition of water. It is supposed to be inert.

MECONIN was discovered by Couerbe. It forms white acicular crystals, is a neutral body, and dissolves in 265 parts of cold and in 18 of boiling Water. Very soluble in Ether, Alcohol, and the essential oils.

MECONIC ACID.—In white, crystalline, pearly scales. Soluble in 4 parts of boiling Water, also in cold Water and Alcohol. Persalts of Iron render it blood-red. The salts of Lead, Silver, and Barium give white precipitates, which are soluble in Nitric Acid. Therapeutically, Meconic Acid has of itself little or no action on the system, but combined with Morphia, the natural salt of Opium, it has a more calming effect than any of the artificial salts of Morphia.

OPIANINE, or OPIANIC ACID.—Discovered by Dr. Hinterberger. Occurs in long, colourless, prismatic crystals. Insoluble in Water, and sparingly soluble in boiling Alcohol, from which it entirely separates on cooling. Strong Sulphuric Acid dissolves without changing it; Nitric Acid colours it yellow, and if added to its Sulphuric Acid solution, blood-red. It contains no Nitrogen.

Spurious Opium has from time to time found its way into the market; and some very similar in external appearance to the best opium having been found on analysis to contain very little Morphia, the British Pharmacopœia has very properly given the following test :—

Test.—Take of Opium 100 grains; Slaked Lime, 100 grains; Distilled Water, 4 ounces. Break down the Opium, and steep it in an ounce of the water for twenty-four hours, stirring the mixture frequently. Transfer it to a displacement apparatus and pour on the remainder of the water in successive portions, so as to exhaust the Opium by percolation. To the infusion thus obtained, placed in a flask, add the Lime; boil for ten minutes; place the undissolved matter on a filter, and wash it with an ounce of boiling water. Acidulate the filtered fluid slightly with dilute Hydrochloric Acid; evaporate it to the bulk of half an ounce, and let it cool. Neutralize cautiously with Solution of Ammonia, carefully avoiding an excess; remove by filtration the brown matter which separates, wash it with an ounce of hot water; mix the washings with the filtrate; concentrate the whole to the bulk of half an ounce, and add now Solution of Ammonia in slight excess. After twenty-four hours collect the precipitated Morphia on a weighed filter, wash it with cold water and dry it at 212° F. It ought to weigh at least from 6 to 8 grains, and is pure Morphia.

14 of good Smyrna fresh from the chest when dried weigh 12, and the extract from it weighs 7.

Dose.—Of the powder, 1 to 3 grs.

Medicinal Properties.

Opium has three main physiological effects :—

It diminishes pain (insensibility).

It causes sleep.

It arrests secretion, excepting that of the skin, which it promotes.

In small doses it excites the vascular and nervous systems, increasing the rapidity and fulness of the pulse; this is followed by sleep, accompanied with perspiration. It is apt to produce nausea, headache, thirst, and constipation. If the dose be large, the sleepiness becomes intense, and there is difficulty in waking the patient. By continued use, it impairs the appetite and digestion. It also acts on the respiratory system, diminishing the frequency of respirations, and thus impairing the oxidization of the blood.

Preparations.

EMPLASTRUM.

Opium in very fine powder, 1; Resin Plaster, 9: melt the Resin Plaster by steam or water bath, add the Opium by degrees, and mix thoroughly.

Anodyne, to relieve local pain.

(Same as Dub. 1 in 10; Lond. 1 in 11; Edin. 1 in 31; U. S. 1 in 16; Belg. and Pr. 1 in 8; not in Austr. and Fr.)

ENEMA.

Tincture of Opium, ½ drm.; Mucilage of Starch, 2 oz.: mix.

(Same as Edin. and Lond.; not in others.)

EXTRACTUM.

Opium in thin slices, 1 lb.; Distilled Water, 6 pints: macerate the Opium in 2 pints of the Water twenty-four hours, and express the liquor; reduce the Opium to a uniform pulp. Macerate it again in 2 pints of the Water for twenty-four hours, and express: mix the liquors. Repeat the operation a third time; mix the liquors; strain through flannel, and evaporate by a water-bath to a proper consistence.

This is less stimulating than powdered Opium, and is preferred as a direct sedative.

100 of good Opium yields 50 of extract.

(In all the Pharmacopœias.)

Dose.—1 gr. or more.

EXTRACTUM LIQUIDUM.

Extract of Opium, 1; Distilled Water, 17; Rectified Spirit, 3: digest the Extract of Opium in the Water for an hour, stirring frequently; filter, and add the Spirit. The product should measure 20.

A new preparation; one-eighth part stronger than the Tincture.

Dose.—12 to 20 minims.

Produces the direct effects of Opium, but with less subsequent derangement of the nervous system; therefore adapted for children and persons of irritable temperament. The author finds that there is not sufficient Spirit to keep it.

LINIMENTUM.

Tincture of Opium, 1; Liniment of Soap, 1: mix. The addition of the

Opium to the Soap Liniment renders it more useful in many cases of rheumatism and local pains.

(Same as Dub. Edin.; Lond. 1 in 3; not in foreign Pharmacopœias.)

PILULA.

Opium in fine powder, 1; Hard Soap, 4; Distilled Water, a sufficiency: reduce the Soap to powder, triturate it with the Opium, and add Water sufficient to make a pill mass.

Anodyne and soporific.

(Lond. Dub. and U. S. Pil. Saponis Comp.; Edin. Pil. Opii; not in other Pharmacopœias.)

5 grains contain 1 grain of Powder of Opium.

TINCTURA.

Opium in coarse powder, 1½; Proof Spirit, 20: macerate seven days, strain, express, filter, and add spirit to make 20.

A valuable anodyne and soporific, preferred to solid Opium when a more immediate effect is required.

(Same as Lond. Edin. Dub. U. S. and Belg.; Pr. 1 in 10; Austr. 1 in 6.)

Dose.—15 to 30 minims.

14½ minims = 1 grain Powder of Opium.

VINUM.

Opium in powder, 1½; Sherry, 20: macerate seven days, strain, express, filter, and make up to 20.

(Same as Dub.; Lond. Edin. and Fr. stronger and with aromatics; U. S. 1 in 8; Belg. 1 in 12; not in Pr. nor Austr.)

Dose.—15 to 30 minims.

Same strength as Tinct. Opii.

Contained in	Proportions of Opium in the mass.
PILULA PLUMBI CUM OPIO	1 in 8.
PULVIS CRETÆ AROMATICUS CUM OPIO	1 in 40.
PULVIS IPECACUANHÆ CUM OPIO	1 in 10.
PULVIS KINO CUM OPIO	1 in 20.
TINCTURA CAMPHORÆ CUM OPIO	¼ gr. in drm. or 1 in 240.
UNGUENTUM GALLÆ CUM OPIO	1 in 14.

Not Officinal.

Solution of Bi-meconate of Morphia.—Same strength and same dose as of Tincture of Opium. This was introduced into medicine by the Author in 1839; possesses in an eminent degree the sedative powers of Morphia. Dr. Roots thus writes of it:—"I have taken it myself daily now very nearly four years, and during that period I have frequently prescribed it in my private practice. The result of my observations on its effects on myself and others amounts to this, namely, that it disturbs the head less, that it distresses the stomach less, and that it constipates the bowels less, than any other preparation of opium. I have taken every other preparation of Opium, but from none of them have I obtained the same degree of quiet rest that I have enjoyed from this Bi-meconate of Morphia."

Liquor Sedativus (Battley) has enjoyed a reputation for a long time as an anodyne and sedative superior to Tincture of Opium, but it is somewhat stronger, say 50 per cent.; the dose is therefore 10 to 20 minims.

Sydenham's Laudanum.—A vinous preparation of Opium. 8 minims are equal to 1 grain of Opium.

Black Drop.—Originally prepared by John Cook, of Manchester. 1 drop is equal to 4 drops of Tincture of Opium.

Jeremie's Laudanum.—Prepared by Savory and Moore. The same dose as Battley's.

Nepenthe.—Prepared by Ferris, of Bristol. Same dose as Tincture of Opium.

Tinctura Thebaica.—Extract of Opium, 4; Proof Spirit, 38 by weight: macerate and filter. In doses from 6 to 10 minims.

OXYMEL.—*See* MEL.

PAPAVER.

POPPY CAPSULES.

The nearly ripe capsules of the *Papaver somniferum*, dried and deprived of the seeds; cultivated in Britain.

Medicinal Properties.

Similar to Opium, but weaker and of uncertain strength.

Preparations.

DECOCTUM.

Poppy Capsules, bruised, free from seeds, 1; Distilled Water, 15: boil ten minutes and strain; product should be 8.

(Edin. and Dub. same strength, but with seeds; Lond. weaker; Belg. 1 in 20; not in Austr. and Pr.)

An external soothing application.

SYRUPUS.

Poppy Capsules, bruised, free from seed, 36 oz.; boiling Distilled Water, 20 pints; Rectified Spirit, 16 oz.; Refined Sugar, 4 lb.: macerate the Poppy Capsules in the water, in a water-bath kept hot, for twelve hours, then evaporate all the water, except that absorbed by the capsules, press strongly and strain; reduce the strained liquor to 3 pints, and when quite cold add the spirit, mix and filter, distil off the spirit, evaporate the remaining liquor to 2 pints, and then add the sugar; the produce should weigh 104 oz. and measure 80 oz., and should have the sp. g. 1·300. (Brit. Pharm. 1·320.)

(About the same as Lond. and Edin.; not in Dub.; Austr. Belg. and Fr. with *extract* and simple syrup, 1 in 100; not in Pr. and U. S.)

Dose.—1 to 4 drms.; for children, 10 to 20 minims, increasing cautiously in consequence of their susceptibility to the influence of Opium.

In the Edinburgh formula no spirit was ordered. In Lond. the same amount of spirit as in the British, but to be added at the end of the process, and was useless. In the new process it is added to the cooled decoction, and thus coagulates the albuminous matters; the filtered liquor now being made into a syrup with the sugar, will be preserved from fermentation even in hot weather.

Not Officinal.

Extractum.—The liquid obtained by the process for making the syrup (previous to adding the Sugar), evaporated to the consistence of an extract.

Dose.—2 to 5 grs.

Extractum Liquidum.—The liquid obtained by the process for making the syrup (previous to adding the Sugar), 3; Rectified Spirit, 1: mix.

Dose.—30 to 60 minims.

PAREIRA.

PAREIRA.

The dried root of the *Cissampelos Pareira*, from Brazil.

A good deal of the stem, which closely resembles the root, is imported, and is said to be much less efficacious. The root itself has frequently filiform rootlets attached to it.

Medicinal Properties.

Tonic, aperient, and diuretic. In calculous affections, chronic inflammation, and ulceration of the kidneys and bladder; strongly recommended by Sir B. Brodie for its action on the mucous membrane of the bladder.

Best prescribed with Opium.

Preparations.

DECOCTUM.

Pareira, sliced, 1; Distilled Water, 20: boil fifteen minutes and strain; should measure 14.

(Same as Lond.; not in Edin. Dub.; not in foreign Pharmacopœias.)

Dose.—1 to 3 oz. three or four times a day.

EXTRACTUM LIQUIDUM.

Pareira, in coarse powder, 16; boiling Distilled Water, 160, or a sufficiency; Rectified Spirit, 3: macerate in 20 of water twenty-four hours, pack in a percolator, add water till exhausted, evaporate to 13, add the spirit, and filter.

A new preparation.

Dose.—1 to 2 drms.

The *solid* extract was in Lond. and Edin., and often prescribed as an adjunct to the decoction.

Not Officinal.

PEPSINE.

The gastric juice obtained from the stomachs of the hog, sheep, or calf, killed fasting; purified, dried, and mixed with dry starch.

Medicinal Properties.—Administered in all cases where there is a deficiency of gastric juice.

Dose.—15 grs. before each meal, in powder, or suspended in soup or syrup, or in the form of Pepsine Wine.

PILULÆ.

PILLS.

This class of medicines, so convenient and portable, was introduced in the earliest Pharmacopœias, and some of them remain unchanged to the present day. We may mention the Pilula Ruffi, which has for at least two hundred years maintained the same proportions, and is now called Pil. Aloes et Myrrhæ. Pills have been rolled in flour, starch, magnesia, liquorice powder, and on the Continent in lycopodium; also, enveloped in silver leaf, and more recently coated with egg-albumen and Ethereal Solution of Tolu for the purpose of preventing them from becoming dry and hard, as well as to shield them from the palate, and so to prevent their being tasted.

The Pills of former Pharmacopœias omitted from the British, are :—Pilula Aloes Composita, Lond. and Dub.; Aloes et Ferri, Edin.; Calomelanos et Opii, Edin.; Conii Composita, Lond.; Cupri Ammoniati, Edin.; Digitalis et Scillæ, Edin.; Ferri Composita, Lond.; Ferri Sulphatis, Edin.; Ipecacuanhæ et Opii, Edin.; Ipecacuanhæ cum Scilla, Lond.; Opii sive Thebaicæ, Edin.; Rhei, Edin.; Rhei et Ferri, Edin.; Styracis Composita, Lond. Edin.

Pilula Aloes is now to be ordered as Pil. Aloes Barbadensis or Pil. Aloes Socotrina; Pil. Aloes cum Sapone, Lond., is replaced by Pil. Aloes Barb., but the ingredients vary in proportions; Pil. Assafœtidæ, Edin. Dub., is now Pil. Assafœtidæ Comp.; Pil. Galbani, Lond., is represented by Pil. Assafœtidæ Comp., with varied proportions; Pil. Hydrargyri Chloridi Comp., Lond. Edin. Dub., now Pil. Calomelanos; Pil. Plumbi Opiata, Edin., now Pil. Plumbi cum Opio; Pil. Saponis Comp., Lond. Dub., replaced by Pil. Opii.

Pilula Ferri Iodidi is a new preparation.

The following are now contained in the British Pharmacopœia, the formulæ for which will be found under the names of the substances from which they are prepared.

	Proportion of active ingredients in the mass.
PILULA ALOES BARBADENSIS	1 in 2.
PILULA ALOES ET ASSAFŒTIDÆ	1 in 4.
PILULA ALOES ET MYRRHÆ	1 in 3.
PILULA ALOES SOCOTRINÆ	1 in 2.
PILULA ASSAFŒTIDÆ COMPOSITA	Ass. 1, Galb. 1 in 3½.
PILULA CALOMELANOS COMPOSITA	1 in 5.
PILULA CAMBOGIÆ COMPOSITA	about 1 in 5½.
PILULA COLOCYNTHIDIS COMPOSITA.	Col. 1, Aloes 2, Scam. 2 in 6.
PILULA COLOCYNTHIDIS ET HYOSCYAMI.	Pil. Col. Co. 2 Ext. Hyos. 1 } in 3.
PILULA FERRI CARBONATIS	1 in 1¼.
PILULA FERRI IODIDI	1 in 3.
PILULA HYDRARGYRI	1 in 3.
PILULA OPII	1 in 5.
PILULA PLUMBI CUM OPIO	Pl. Acet. 6, Opium 1 in 8.
PILULA RHEI COMPOSITA	Rh. 1, Aloes ¾ in 4.
PILULA SCILLÆ COMPOSITA	1 in 5.

PIMENTA.

PIMENTO.

The dried unripe berries of the *Eugenia Pimenta*, from the West Indies.

Medicinal Properties.

A warm aromatic stimulant, like Cloves; used as an adjuvant to tonics and purgatives.

Dose.—10 to 30 grs. in powder.

Preparations.

AQUA.

Pimento, bruised, 1; Water, 20: distil one-half.

(Same as Lond. and Edin.; Dub. made with essence.)

Dose.—1 to 2 oz. in powder.

OLEUM.

The Oil distilled in England from Pimento. Sp. g. 1·021.

(Lond.; not in Edin. and Dub.)

Dose.—1 to 3 minims, on Sugar, in pill, or emulsion.

PIPER.

BLACK PEPPER.

The dried unripe berries of the *Piper nigrum*, chiefly from the West Indies.

Medicinal Properties.

A warm carminative stimulant, producing general arterial excitement. Chiefly used to excite the languid stomach and correct flatulence. Acts on the mucous membrane of the rectum, whence it is useful in hæmorrhoids, also on the membrane of the urethra, similarly to Cubebs. In intermittents it may be used as an adjuvant to more powerful febrifuges, when the stomach is not acted upon by Quinia, as with drunkards.

Dose.—5 to 20 grs. in powder.

Preparation.

CONFECTIO.

Black Pepper, in fine powder, 2; Caraway, in fine powder, 3; Clarified Honey, 15: triturate.

(Brit. 1 of Pepper in 10; Lond. and Edin. 1 in 9; Dub. 1 in 8; Lond. with Elecampane; Edin. and Dub. with Liquorice and Fennel.)

Dose.—1 to 2 drms.

PIX BURGUNDICA.

BURGUNDY PITCH.

A resinous exudation from the stem of the *Abies excelsa*, melted and strained; imported from Switzerland.

It is Abietis Resina (Lond.), Thus (Dub.), which exudes, and when melted and strained is called Burgundy Pitch.

Preparation.

EMPLASTRUM.

Burgundy Pitch, 26; Common Frankincense (Thus Americanum) 13; Resin, 4½; Yellow Wax, 4½; Expressed Oil of Nutmegs, 1; Olive Oil, 2; Water, 2: add the Oil and the Water to the other ingredients, previously melted together; stir, and evaporate to a proper consistence.

Applied to the chest in chronic pulmonary complaints, to the loins in lumbago, to the joints in chronic articular affections, and to other parts to relieve local pains of a rheumatic character. It acts as a counter-irritant.

(Same as Lond.; Edin. contains 50 per cent. more Pitch; not in Dub.; U.S. Belg. Fr. Austr. and Pr.)

PIX LIQUIDA.

TAR.

A bituminous liquid obtained from the wood of *Pinus sylvestris* and other Pines by destructive distillation.

Medicinal Properties.

Similar to Turpentine. May be used internally in chronic catarrhal affections, and complaints of the urinary passages; also for some chronic skin diseases. Inhaled, the vapour is useful in chronic bronchitis. Also as an external application in cases of lepra, etc.

(In all the Pharmacopœias.)

Not Officinal.

TAR CAPSULES.

Dose.—2 capsules, three or four times a day, as a stimulant and diuretic.

AQUA (TAR WATER).—Stir a pint of Tar with half a gallon of Water for fifteen minutes, and decant.

Dose.—From 1 to 2 pints daily, or may be used as a wash.

UNGUENTUM.—Tar and Suet in equal parts: melt together and stir till cold. Applied in cases of psoriasis, lepra, and scald-head.

PLUMBUM.

LEAD.

Pb; eq. 103·5.

Lead occurs in nature as an oxide, and as a sulphuret called *galena*, also in saline combination, forming the native sulphate, phosphate, carbonate, chromate, molybdate, tungstate, and arseniate of lead. The oxide is rare, but galena is exceedingly abundant, and is the ore from which nearly *all* the lead of commerce is extracted.

PLUMBI ACETAS.

ACETATE OF LEAD.

Syn. Saccharum Saturni, Cerussa Acetata, Plumbi Superacetas, Sugar of Lead.

$PbO,C_4H_3O_3 + 3HO$; eq. 190.

In white masses of interlaced acicular crystals, slightly efflorescent, having an acetous odour, and a sweet astringent taste.

Solubility: in Water, 10 in 25.

Litharge, in fine powder, 6; Acetic Acid, 40; Distilled Water, 20: mix the Acetic Acid and the Litharge, and dissolve with the aid of gentle heat; filter, evaporate till a pellicle forms, and set aside to crystallize, adding a little Acetic Acid should the fluid not have a distinct acid reaction; drain and dry the crystals on filtering-paper, without heat.

Test.—Its solution in Distilled Water is clear, or is only a slightly turbid, and becomes clear on the addition of Acetic Acid. 38 grains dissolved in water, require for complete precipitation 20 minims of the volumetric solution of Oxalic Acid.

Medicinal Properties.

In small doses, it is sedative and astringent, lessening morbid mucous discharges and hæmorrhages, and even diminishing natural secretions; whence it is useful in chronic diarrhœa and dysentery. Used in phthisis to check expectoration; in bronchitis to abate profuse secretion. Its use requires caution. Externally, it is sedative, desiccant, and astringent, diminishing profuse discharges of ulcers; also for injection in gonorrhœa.

(In all the Pharmacopœias.)

Dose.—1 or 2 to 8 or 10 grs. in pill.

Preparation.

PILULA PLUMBI CUM OPIO.

Acetate of Lead, in fine powder, 6; Opium, in fine powder, 1; Confection of Roses, 1: mix.

(Same as Edin.; not in Lond. or Dub.; not in foreign Pharmacopœias.)

Dose.—1 or 2 four-grain pills once or twice daily.

Not Officinal.

Lotio Plumbi Acetatis.—2 grains to an ounce (Ophthalmic Hospital).

Lotio Plumbi Diacetatis.—From 3 minims to 7 minims to an ounce.

PLUMBI CARBONAS.

CARBONATE OF LEAD.

Syn. White Lead.

$2(PbO,CO_2) + HO,PbO$; eq. 134.

A soft, heavy, white powder.

Solubility: insoluble in Water; soluble, with effervescence, in diluted Nitric Acid.

Test.—Dissolves in Acetic Acid without leaving any residue, and the solution, when treated with excess of Sulphuretted Hydrogen, boiled and filtered (all the Sulphuret of Lead separated), gives no precipitate with Oxalate of Ammonia—indicating absence of Lime.

Medicinal Properties.

Employed externally as an astringent and sedative, or as an ointment for ulcers and inflamed and excoriated surfaces.

(Edin.; not in Lond. and Dub.; in Austr. and U. S.; not in Belg. Fr. and Pr.)

Preparation.

UNGUENTUM.

Carbonate of Lead, in fine powder, 1; Simple Ointment, 7: mix thoroughly.

(Not in Lond.; Edin. 1 in 6; Dub. 1 in 5; U.S. 1 in 7; not in others.)

PLUMBI SUBACETATIS LIQUOR.

SOLUTION OF SUBACETATE OF LEAD.

Syn. LIQUOR PLUMBI DIACETATIS.

Subacetate of Lead, $2\,PbO, C_4H_3O_3$, dissolved in water.

A dense, clear, colourless liquid, with alkaline reaction and sweet astringent taste.

Acetate of Lead, 5; Litharge, in powder, 3½; Distilled Water, 20: boil half an hour, constantly stirring; filter, and make up 20.

(Same as Lond. and Edin.; rather stronger than Dub.; in all others.)

Test.—Sp. g. 1·260. 2 drachms require for perfect precipitation 27 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

When largely diluted, it is used externally as an astringent and sedative for inflammation arising from sprains, bruises, etc.; applied by means of cloths kept wet. As an astringent gargle (½ drm. to 6 oz. Rose Water).

(In all the Pharmacopœias.)

Preparations.

LIQUOR DILUTUS.

Solution of Subacetate of Lead, 1; Rectified Spirit, 1; Distilled Water, 78: mix and filter.

(1 in 80, same as Dub.; Lond. 1 in 112; U.S. 1 in 42; Austr. 1 in 27: not in others.)

UNGUENTUM.

Solution of Subacetate of Lead, 6; Camphor, $\frac{1}{7}$; White Wax, 8; Olive Oil, 20: melt the Wax with 16 of the Oil, on a steam- or water-bath; remove the vessel, and, as soon as the mixture begins to thicken, gradually add the Solution of Subacetate of Lead, and stir the mixture constantly until it cools; then add the Camphor, dissolved in the rest of the Oil, and mix thoroughly.

(Similar to Ung. Plumbi, Pr.; not in Belg. or Austr. The same as Ceratum Plumbi Compositum, Lond. and U.S., excepting that White Wax is now used instead of Yellow.)

PODOPHYLLUM.

PODOPHYLLUM.

The root of the *Podophyllum* dried; imported from North America.

Medicinal Properties.

An active and certain cathartic. Applicable to cases where brisk purging is required; combined generally with Henbane. Used in all cases where Mercury is indicated.

Dose.—20 grs. of the powder of the root.

Preparation.

RESINA.

Podophyllum, in coarse powder, 1; Rectified Spirit, 4, or a sufficiency; Distilled Water and Hydrochloric Acid, of each a sufficiency: exhaust the Podophyllum by percolation with the spirit; distil over the spirit; slowly pour the liquid remaining after the distillation of the tincture into three times its volume of water acidulated with one-twenty-fourth part of its weight of Hydrochloric Acid, constantly stirring; let it stand twenty-four hours; collect the resin which falls, wash on a filter with distilled water, and dry in a stove.

Solubility: totally in Rectified Spirit and Ammonia, and almost entirely in pure Ether.

Medicinal Properties.

Cholagogue, purgative; used as a substitute for Calomel.

Given in pills with Soap and Henbane.

A new preparation.

(In U.S.; not in other Pharmacopœias.)

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ or even 1 gr.

POTASSIUM.

POTASSIUM.

K; eq. 39.

Potassium was discovered by Sir Humphry Davy in 1807. It is a soft metal (sp. g. 0·865), cutting like soft wax, of a silver-white colour, but tarnishes the instant it is cut, and assumes a leaden colour. It has so great an affinity for Oxygen, that it takes fire when thrown on water, and a Solution of Potash is the result.

Of the preparations of Potassium only the Bromide and the Iodide are admitted into the British Pharmacopœia.

POTASSII BROMIDUM.

BROMIDE OF POTASSIUM.

KBr; eq. 117·55.

In white, transparent, cubical crystals, odourless, of a pungent saline taste.

Solubility: in Water, 1 in 2.

Test.—10 grains require for complete decomposition 84 measures of the volumetric solution of Nitrate of Silver. A solution of this salt, mixed with the mucilage of Starch, and a drop of aqueous solution of Bromine, does not exhibit any blue colour—indicating absence of Iodide.

Medicinal Properties.

Introduced by Dr. Robert Williams, for chronic enlargements of the liver. It is employed in enlargement of the spleen, and in bronchocele and scrofula. It exerts a powerful influence on the generative organs, lowering their functions in a marked degree. This salt, as well as the Bromide of Ammonium, is used to produce anæsthesia of the larynx. It is said that if contaminated with Iodide of Potassium, it produces irritation of the mucous membrane of the nose and fauces.

(In U. S.; not in other Pharmacopœias.)

Dose.—5 to 15 grs.

POTASSII IODIDUM.

IODIDE OF POTASSIUM.

KI; eq. 166.

In colourless, generally opaque, cubical crystals.

Solubility: in Water, 4 in 3; Spirit, 1 in 6.

Test.—The addition of Tartaric Acid and Mucilage of Starch to its watery solution does not develope a blue colour—indicating absence of Iodate. Solution of Nitrate of Silver added in excess forms a yellow-white precipitate (Iodide of Silver), which, when agitated with Ammonia, yields by subsidence a clear liquid, in which excess of Nitric Acid causes no turbidity—indicating absence of Chlorine. Its aqueous solution is only faintly precipitated by the addition of Lime—indicating absence of Carbonates.

Medicinal Properties.

It is given in those cases where Iodine is indicated, but being less irritant, is almost universally preferred for internal administration.

(In all the Pharmacopœias.)

Dose.—1 to 10 grs.

Iodide of Potassium should not be prescribed with Sweet Spirits of Nitre, Decoction of Liquorice, or any other vegetable preparation containing Starch; nor with any acid preparations. It is sometimes prescribed with Tincture of Bark, an ounce of which dissolves half a drachm.

(In all the Pharmacopœias.)

Dose.—1 to 10 grs.

Preparations.

LINIMENTUM IODI.—*See* IODUM.

TINCTURA IODI.—*See* IODUM.

UNGUENTUM.

Iodide of Potassium, 64 grs.; Distilled Water, 1 drm.; Prepared Lard, 1 oz.: dissolve the Iodide in the Water, and mix thoroughly with the Lard.

(Same as Lond. Dub. Belg. Pr. U. S.; not in Edin. or Fr.)

POTASSA CAUSTICA.

CAUSTIC POTASH.

Syn. Potassæ Hydras, *Lond.;* Potassa, *Edin.*

Hydrate of Potash, KO,HO; eq. 57.

In hard white pencils, very deliquescent, powerfully alkaline and corrosive.

Solubility: in Water, 2 in 1.

Test.—56 grains dissolved in Water leave only a trace of sediment, and require for neutralization at least 90 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A powerful escharotic. Chiefly employed for making caustic issues. Has been much used for the destruction of tumours and the surface of malignant ulcers.

(In all the Pharmacopœias.)

Preparation.

LIQUOR.

Carbonate of Potash, 2; Slaked Lime, 1½; Distilled Water, 5: dissolve the Carbonate of Potash in the water, and having heated the solution to the boiling-point in a clear iron vessel, gradually mix with it the Slaked Lime, and continue the ebullition for ten minutes with constant stirring; decant the clear liquid.

Sp. g.: British, 1·058; Lond. 1·063; Edin. 1·072; Dub. 1·068; U. S. 1·065, containing 5·8 per cent. of Hydrate of Potash.

Test.—1 fluid ounce requires for neutralization 48·25 measures of the volumetric solution of Oxalic Acid. It does not effervesce when added to an excess of dilute Hydrochloric Acid, nor give a precipitate with Lime or Oxalate of Ammonia—indicating absence of Carbonic Acid and Lime. When it is treated with an excess of dilute Nitric Acid and evaporated to dryness, the residue forms, with water, a nearly clear solution, which is only slightly precipitated with Chloride of Barium (indicating absence of sulphates), and Nitrate of Silver (indicating absence of chlorides), and is rendered very slightly turbid by Ammonia—indicating a trace of Alumina.

1 fluid ounce contains 4 grains of anhydrous Potassa, and has about the same saturating power as Liquor Sodæ.

Medicinal Properties.

Antacid, diuretic, and antilithic. As an antacid in dyspepsia. Useful in many skin diseases dependent upon a morbid condition of the stomach; given as an alterative in inflammation of the serous membrane attended with fibrinous depositions, as in pleuritis, pericarditis, and periostitis; also in scrofula, syphilis, and chronic rheumatism. Externally, as a wash in chronic skin-diseases, as a stimulant lotion, and as an escharotic against the bite of rabid or venomous animals.

During a course of this the urine does not become alkaline, which is the case when Carbonate of Potash is taken.

Dose.—½ to 2 drms. three times a day in Beer or Milk.

Not Officinal.

Potassa cum Calce (Vienna Paste).—Caustic Potash, 5 drms.; Slaked Lime, 6 drms.; Rectified Spirit, sufficient to make a mass. The paste is spread on the part to be cauterized, and is allowed to remain for ten or fifteen minutes, while the surrounding skin is protected by adhesive plaster.

Potassa cum Calce in cylinders of three different sizes, consisting of 2 parts of Potassa and 1 of Lime, are a suitable form for the use of obstetricians.

POTASSA SULPHURATA.

SULPHURATED POTASH.

Syn. Potassii Sulphuretum.

Tersulphuret of Potassium, KS_3, with Sulphate of Potash.

Solid greenish masses, liver-brown when recently broken, alkaline and acrid to the taste.

Test.—About three-fourths of its weight are dissolved by Rectified Spirit.

Medicinal Properties.

Irritant, narcotic, and antiseptic. A good remedy, both internally and externally, for scabies; used also for other chronic eruptions, especially lepra and psoriasis.

Dose.—3 to 8 grs.

(In all the Pharmacopœias.)

Not Officinal.

Balneum Sulphuretum.—Sulphurated Potash, 4 oz.; Water, 30 gall.: dissolve.

POTASSÆ ACETAS.

ACETATE OF POTASH.

$KO,C_4H_3O_3$; eq. 99.

White, foliaceous, satiny masses, very deliquescent.

Solubility: in Water, 100 in 35; in Proof Spirit, 1 in 2.

Test.—Neutral to test paper. Entirely soluble in Rectified Spirit. Its solution is unaffected by Hydrosulphuret of Ammonia.

Medicinal Properties.

Diuretic and purgative. Advantageously used as a purgative diuretic in dropsy. It has been used with great success in acute rheumatism.

Best administered in simple solution, with a little Sugar if desired.

(In all the Pharmacopœias.)

Dose.—10 to 20 grs. as a diuretic; 2 to 3 drms. as a laxative.

POTASSÆ BICARBONAS.

BICARBONATE OF POTASH.

Syn. Potassæ Carbonas.

$KO,HO,2CO_2$; eq. 101.

In colourless, right rhombic prisms, not deliquescent, of a saline, feebly alkaline taste.

Solubility: in cold Water, 1 in 3. Insoluble in Rectified Spirit.

Test.—50 grains exposed to a low red-heat, leave 34½ grains of a white residue (Carbonate of Potash), which requires for exact saturation 50 measures of the volumetric solution of Oxalic Acid.

15 grains of Citric Acid neutralize 20 of this salt.

Medicinal Properties.

Antacid, antilithic, and diuretic. Highly useful in acute rheumatism in large and frequent doses.

Closely resembles the carbonate, but without its irritant qualities. Administered in aërated water or plain bitter infusion.

(In all the Pharmacopœias.)

Dose.—10 to 20 grs. as an antacid or antilithic; 1 to 2 drms. as a diuretic.

POTASSÆ CARBONAS.

CARBONATE OF POTASH.

Carbonate of Potash, KO,CO_2+2HO; eq. 83·5.

A white crystalline powder, alkaline and caustic, very deliquescent.

Solubility: in Water, 100 in 75. Insoluble in Spirit.

Test.—Loses about 21 per cent of its weight when exposed to a red-heat. When supersaturated with Nitric Acid and evaporated to dryness, the residue is almost entirely soluble in Water, only a little Silica remaining undissolved. It is precipitated only faintly by Chloride of Barium and Nitrate of Silver. 87 grains require for neutralization at least 98 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

Antacid, antilithic, and diuretic. It is less corrosive than Caustic Potash. Like the bicarbonate, it is diuretic, but inferior to the other salts of Potash,—the nitrate, acetate, and bitartrate. As an antilithic it is preferable to the bicarbonate, and if the tendency to lithic discharge be great, about 35 grains, in divided doses, may be given daily. Sometimes a solution is used as an antilithic injection.

(In all the Pharmacopœias.)

Dose.—5 to 12 grs.

POTASSÆ CHLORAS.

CHLORATE OF POTASH.

KO,ClO_5; eq. 123·5.

In colourless, rhomboidal, crystalline plates, with a cool saline taste.

Solubility: in cold Water, 1 in 12; in boiling Water, 1 in 2.

Test.—Its solution is not affected by Nitrate of Silver or Oxalate of Ammonia. Indicating absence of Chloride and Lime.

Medicinal Properties.

Stimulant and diuretic, and appears to undergo no change in passing to the kidneys. The mode of action is very doubtful. Its effects are best proved in inflammatory affections of the mouth. Useful when the powers of the system require to be roused, as in the low stage of typhus fever, and particularly, for the same purpose, in smallpox and scarlatina.

(In all the Pharmacopœias; except Dub.)

Dose.—10 to 20 grs. in solution three or four times daily.

POTASSÆ CITRAS.

CITRATE OF POTASH.

$3KO,C_{12}H_5O_{11}$; eq. 100.

A white powder, of saline, feebly acid taste, and deliquescent.

Solubility: in Water, 10 in 6. Insoluble in Proof Spirit.

Test.—102 grains heated to redness till gas ceases to be evolved, leaves an alkaline residue (Carbonate), which requires for exact saturation 100 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A refrigerant diaphoretic. It is a valuable saline febrifuge, increasing the secretion of the kidneys, and is thus eliminated in the urine, rendering it neutral or alkaline. Given as a drink in scurvy.

(In U. S.; not in other Pharmacopœias.)

Dose.—20 to 25 or even 60 grs.

POTASSÆ NITRAS.

NITRATE OF POTASH.

KO,NO_5; eq. 101·2.

In white opaque masses or fragments of opaque, striated, six-sided prisms, colourless, of a peculiar cool saline taste.

Solubility: in cold water, 1 in 4; in boiling water, 1 in 2½.

Test.—Its solution is not affected by Chloride of Barium or Nitrate of Silver.

Medicinal Properties.

Refrigerant, diuretic, and diaphoretic. Reduces the pulse, and is peculiarly depressing. Much used in acute inflammatory diseases. With Tartar Emetic and Calomel it promotes the secretions of the liver and skin, and lessens febrile excitement. Useful as a gargle in inflammatory sore-throat.

(In all the Pharmacopœias.)

Dose.—5 to 20 grs. as a refrigerant and diuretic.

POTASSÆ PERMANGANAS.

PERMANGANATE OF POTASH.

KO,Mn_2O_7; eq. 156.

In dark purple, slender, prismatic crystals, inodorous, with a sweet astringent taste.

Solubility: in Water, 1 in 16.

Test.—Entirely soluble in cold Water. 5 grains dissolved in Water require, for complete decoloration, a solution of 44 grains of granulated Sulphate of Iron acidulated with 2 drachms of dilute Sulphuric Acid.

Medicinal Properties.

Used in diabetes. Externally, as a caustic and deodorizer, to foul ulcers and cancers.

Dose.—3 or 4 grs. three times daily in water, gradually increasing.

(In U. S.; not in other Pharmacopœias.)

Preparation.

LIQUOR.

Permanganate of Potash, 4 grs.; Distilled Water, 1 oz.: dissolve.

A new preparation; half the strength of Condy's Fluid.

Diluted, it is useful as a gargle or as a cleaning wash for diseased surfaces.

POTASSÆ SULPHAS.

SULPHATE OF POTASH.

KO,SO_3; eq. 88.

In colourless, hard, six-sided prisms, terminating by six-sided pyramids.

Solubility: in cold Water, 1 in 10; boiling Water, 1 in 4. Insoluble in Rectified Spirit.

Test.—Neutral to test paper. Its solution is not affected by Oxalate of Ammonia. Indicating absence of Lime.

Medicinal Properties.

Mildly cathartic, usually operating without irritation. Generally given in combination with Rhubarb. A useful purgative in jaundice and dyspeptic affections.

(In all the Pharmacopœias.)

Dose.—10 to 20 grs. as an alterative; 1 to 2 drms. as a purgative.

POTASSÆ TARTRAS.

TARTRATE OF POTASH.

$2KO,C_8H_4O_{10}$; eq. 114.

In small, colourless, four- or six-sided prisms.

Solubility: in Water, 10 in 8. Insoluble in Rectified Spirit.

Test.—Entirely dissolved by its own weight of Water. 113 grains heated to redness till gases cease to be evolved, leave an alkaline residue (Carbonate), which requires for exact saturation 100 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A mild, cooling purgative, operating, like most of the neutral salts, without much pain, and producing watery stools.

(In all the Pharmacopœias but Fr.)

Dose.—1 to 2 drms.

POTASSÆ TARTRAS ACIDA.

ACID TARTRATE OF POTASH.

Syn. POTASSÆ BITARTRAS; CREAM OF TARTAR.

$HO,KO,C_8H_4O_{10}$; eq. 188·2.

A finely gritty white powder, or fragments of cakes crystallized on one surface, of a pleasant acid taste.

Solubility: in cold Water, 1 in 200; in boiling Water, 1 in 18. Insoluble in Rectified Spirit.

Test.—188 grains heated to redness till gas ceases to be evolved, leave an alkaline residue (Carbonate), which requires for exact saturation 100 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

Cathartic, diuretic, and refrigerant. Much used in dropsical affections.

Dose.—1 to 2 drms. as an aperient; ½ to 1 oz. as an hydragogue cathartic.

(In all the Pharmacopœias.)

Contained in Confectio Sulphuris, Pulvis Jalapæ Compositus.

PRUNUM.

PRUNE.

The dried drupe of the *Prunus domestica*, from plants cultivated in Southern Europe.

Medicinal Properties.

Nutritious and refrigerant. Rarely prescribed, though often used in domestic medicine as a laxative.

(In all the Pharmacopœias except Pr.)
Contained in Confectio Sennæ.

PTEROCARPUS.

RED SANDAL-WOOD.

The wood of the *Pterocarpus santalinus*, from Coromandel and Ceylon.
Used solely as a colouring agent.
(In all the Pharmacopœias except Pr. and Fr.)
Contained in Tinctura Lavandulæ Comp.

PULVERES.

POWDERS.

The following Powders, included in previous Pharmacopœias, are omitted from the British :—Pulvis Aloes Compositus, Lond.; Aluminis Compositus, Edin.; Antimonii Compositus, Lond. Edin. Dub.; Cinnamomi Compositus, Lond. Edin. Dub.; Cretæ Compositus, Lond. Edin. Dub.; Cretæ Compositus cum Opio, Lond. Edin. Dub.; Salinus Compositus, Edin.; Pulveres Effervescentes, Edin. Dub.

The following Powders are newly introduced into the Pharmacopœia :—Pulvis Amygdalæ Comp. (formerly Confectio Amygdalæ), Antimonialis (formerly P. Antimonii Comp.), Aromaticus (as Conf. Aromatica, without Chalk), Cretæ Aromatica (formerly Confectio Aromatica).

The following Powders are contained in the British Pharmacopœia, the formulæ of which will be found under the names of the substances from which they are prepared :—

	Proportions of active ingredients to the whole.
PULVIS AMYGDALÆ COMPOSITUS.	
PULVIS ANTIMONIALIS	1 in 3.
PULVIS AROMATICUS.	
PULVIS CATECHU COMPOSITUS	1 in 2½.
PULVIS CRETÆ AROMATICUS	1 in 4.
PULVIS CRETÆ AROMATICUS CUM OPIO	1 in 40.
PULVIS IPECACUANHÆ CUM OPIO . . .	1 in 10.
PULVIS JALAPÆ COMPOSITUS	1 in 3.
PULVIS KINO CUM OPIO	1 in 16.
PULVIS RHEI COMPOSITUS	1 in 4½.
PULVIS SCAMMONII COMPOSITUS	1 in 2.
PULVIS TRAGACANTHÆ COMPOSITUS.	

QUASSIA.

QUASSIA.

The wood of the *Picræna excelsa*, from Jamaica.

Medicinal Properties.

Possesses in a high degree the properties of the simple bitters, without astringency. Tonic. Particularly adapted to dyspepsia and in the debility which succeeds acute disease. May be given as a tonic in intermittents.

Preparations.

EXTRACTUM.

Quassia, in moderately fine powder, 1 lb.; Distilled Water, a sufficiency: macerate the Quassia in 8 oz. of water for two hours, pack in a percolator, add water till the Quassia is exhausted, evaporate, filter before it becomes thick, again evaporate to a proper consistence by a water-bath.

18 ounces of wood yield 1 ounce of extract.

(In all the Pharmacopœias.)

Dose.—3 to 5 grs.

INFUSUM.

Quassia, in chips, 1; cold Distilled Water, 73: infuse half an hour and strain.

(Lond. 1 in 240; Edin. 1 in 160: Dub. 1 in 68; U. S. 1 in 64; Fr. 1 in 125; not in Austr. Belg. and Pr.)

It thus appears that the Infusion of the British Pharmacopœia is above three times the strength of Lond., more than twice that of Edin., and about the same strength as that of Dub. and U. S.

Dose.—1 to 2 oz.

QUERCUS.

OAK BARK.

The dried bark of the small branches and young stems of the *Quercus pedunculata*, collected in spring from plants growing in Britain.

Medicinal Properties.

A valuable astringent, whether administered internally or applied externally. May be used, either generally or topically, in all cases requiring astringents.

Dose.—Of the powder, 30 to 120 grs.

Preparation.

DECOCTUM.

Oak Bark, bruised, 1; Distilled Water, 20: boil ten minutes in a covered vessel and strain.

(Same as Dub. Belg. and U. S.; Lond. and Edin. five-eighths the strength; not in Fr. Austr. Pr.)

Dose.—1 to 2 oz. two or three times daily.

QUINIÆ SULPHAS.

SULPHATE OF QUINIA.

Syn. Quiniæ Disulphas, *Lond.*

The sulphate of an alkaloid, $C_{40}H_{24}N_2O_4, HO, SO_3 + 7HO$, prepared from Yellow Cinchona Bark and from the bark of *Cinchona lancifolia*; eq. 436.

100 parts consist of 75 Quinia, 9 Sulphuric Acid, and 16 water.

Yellow Cinchona Bark, in coarse powder, 16; Hydrochloric Acid, 3; Distilled Water, a sufficiency; Solution of Soda, 80; dilute Sulphuric Acid, a sufficiency.

Proceed as directed in the Pharmacopœia.

Solubility: in Water, 1 in 1000.

Test.—Dissolves in pure Sulphuric Acid with a feeble yellowish tint, and undergoes no further change of colour when gently warmed. 10 grains, with 10 minims of diluted Sulphuric Acid and half a fluid ounce of Water, form a perfect solution, from which Ammonia throws down a white precipitate. This redissolves on agitating the whole with half a fluid ounce of pure Ether, without the production of any crystalline matter floating on the lower of the two strata into which the agitated fluid separates on rest. Indicating absence of Quinidia and Cinchonia. The upper stratum of fluid, if entirely removed by a pipette and evaporated, leaves a white residue, which, when dried in the air without heat, weighs 8·6 grains, and is pure Quinia.

Sulphate of Quinia is prepared with profit only on a large scale. The test given for its purity is a sufficient safeguard to the purchaser.

12 grains possess the power of 1 ounce of good bark.

Medicinal Properties.

Sulphate of Quinia may be substituted in all cases where Cinchona is applicable, and in the treatment of intermittent fevers has almost superseded the bark. Useful in many chronic diseases in which intermissions do not occur, as in chronic and pulmonary catarrh kept up by weakened habit, chronic diarrhœa, scrofulous condition of the system, and every case of direct debility. Useful in neuralgia.

When a large dose (say 10 grains) is given, it is best suspended in water; the bitterness is not then so intense as when in solution; prescribed in pill, syrup, confection or Glycerine is best. When in mixture, Tincture of Orange and sometimes Spirit of Ether is added to prevent its causing headache. The Infusion of Roses of the Pharmacopœia is a favourite vehicle, but it is always turbid and unsightly; in the Infusion of Roses with Nitric Acid (*vide* Rosa Gallica) it is bright and attractive in appearance.

(In all the Pharmacopœias.)

Dose.—1 to 5 grs. three times daily as a tonic, or in larger doses as an antiperiodic.

Not Officinal.

Syrup of Dikinate of Quinia.—Introduced by Dr. Donovan, of Dublin. 1 drm. contains 2 grs. of Dikinate of Quinia, which is equal to 3¾ oz. of Decoction of Bark or 96 grs. of Powdered Bark.

Dose.—½ to 1 drm.

RESINA.

RESIN.

$C_{40}H_{30}O_4$.

The residue of the distillation of the Turpentines from various species of *Pinus*.

Medicinal Properties.

Important as an ingredient of ointments, but never used internally.

Preparations.

EMPLASTRUM.
Resin, in powder, 2; Litharge Plaster, 16; Hard Soap, 1: melt the Plaster, add the Resin and Soap, first liquefied, and mix with a gentle heat.

(Lond. Edin. Dub. Belg. and U. S.; not in Austr. Pr. and Fr.)

Used chiefly for strapping wounds and ulcers.

UNGUENTUM.
Resin, in coarse powder, 2; Yellow Wax, 1; simple Ointment, 4: melt, strain hot through flannel, and stir till cool.

(Edin. Dub.; Lond. Ceratum; not in others.)

A stimulating dressing for indolent ulcers.

RHATANIA.—*See* KRAMERIA.

RHEUM.

RHUBARB.

The root of the *Rheum*, deprived of its bark and dried, from Chinese Thibet and Tartary.

Test.—Free from brown specks externally and internally, without cavities. Boracic Acid does not turn the yellow exterior brown. In the powder, adulterations are detected with difficulty.

Medicinal Properties.

Cathartic and astringent, the latter property not interfering with the former, as the purgative effect precedes the astringent. Used in dyspepsia attended with constipation, in diarrhœa when purging is indicated, in the second stage of cholera infantum, in chronic dysentery, and in typhous diseases when cathartic medicine is necessary. It increases the effect of other cathartics.

4 grains of Powdered Rhubarb and 1 minim of Glycerine make a nice pill.

Dose.—10 to 20 grs. of the powder of the root.

Preparations.

EXTRACTUM.

Rhubarb, sliced or bruised, 8; Rectified Spirit, 5; Distilled Water, 50: mix and macerate four days, decant, press, and allow to settle; pour off the clear liquor, filter the remainder, mix, and evaporate, by water-bath, at 160° F., to a proper consistence.

Good Rhubarb yields 39 per cent. of Extract.

(In all the Pharmacopœias.)

Dose.—3 to 10 grs.

INFUSUM.

Rhubarb, in thin slices, 1; boiling Distilled Water, 40: infuse one hour and strain.

(Lond. 1 to 48; Edin. 1 to 20; Dub. 1 to 36; U. S. 1 to 32; Belg. 1 to 15, cold; not in others.)

Dose.—1 to 2 oz.

PILULA COMPOSITA.

Rhubarb, in fine powder, 3 oz.; Socotrine Aloes, in fine powder, 2¼ oz.; Myrrh, in fine powder, 1½ oz.; Hard Soap, 1½ oz.; English Oil of Peppermint, 1½ drm.; Treacle, by weight, 4 oz.: reduce the Soap to fine powder and triturate it with the Rhubarb, Aloes, and Myrrh, add the Treacle, and beat into a mass.

(Same as Dub.; Edin. U. S. and Lond. with Oil of Caraway; not in other Pharmacopœias.)

Dose.—5 to 10 grs.

PULVIS COMPOSITUS.

Rhubarb, in powder, 2; Light Magnesia, 6; Ginger, in powder, 1: mix.

(Same as Edin. Dub. and U. S.; not in others.)

Dose.—½ to 1 drm.—5 to 10 grs. for children.

TINCTURA.

Rhubarb, bruised, 2; Cardamoms, bruised, ¼; Coriander, bruised, ¼; Saffron, ¼; Proof Spirit, 20: macerate for forty-eight hours with 15 of the spirit, agitating occasionally, pack in a percolator, and when it ceases to drop, pour on the remaining spirit, press and wash the marc, and add spirit to make 20.

(Same strength as Dub. and U. S.; Lond. weaker; Edin. stronger; Fr. and Belg. simple and stronger; Austr. Tinct. Vinosa 1 to 12.)

Dose.—As a stomachic, 1 to 2 drms.; as a purgative, ½ to 1 oz.

In Brit. Ph. we have Rhubarb, Cardamoms, *Coriander*, and Saffron.
,, Lond. ,, ,, Rhubarb, Ginger, Liquorice, and Saffron.
,, Edin. ,, ,, Rhubarb and Cardamoms.
,, Dub. ,, ,, Rhubarb, Cardamoms, Liquorice, and Saffron.
,, U. S. ,, ,, Rhubarb and Cardamoms.
,, Austr. ,, ,, Rhubarb, Cardamoms, and Orange, but with Wine.
,, Fr. & Belg. ,, ,, Rhubarb only.

It is to be regretted that the Committee of the British Pharmacopœia have introduced Coriander to alter the good old Tincture of Rhubarb, which has been so long used as a domestic medicine.

RHŒAS.

RED POPPY PETALS.

The petals of the *Papaver Rhœas*, dried; from indigenous plants.

Medicinal Properties.

Of feeble opiate powers; chiefly used on account of its colouring property.

Preparation.

SYRUPUS RHŒADOS.
Red Poppy Petals, dried, 13; Refined Sugar, 36; Distilled Water, 20 or a sufficiency; Rectified Spirit, 2½: add the petals gradually to the water, heated in a water-bath, frequently stirring, remove the vessel, and macerate twelve hours, press out the liquor, strain, add the Sugar, and dissolve by heat; when nearly cold, add the spirit, and Distilled Water to make up 58. Should have a sp. g. 1·330.

(Lond. Edin. and Austr. fresh Petals 1, Sugar 3; not in U. S. Belg. Fr. and Pr.)

Dose.—2 to 4 drms.

RICINI OLEUM.

CASTOR OIL.

The Oil expressed in England from the seeds of the *Ricinus communis*, or imported from the East Indies and America.

It is frequently obtained by decoction, or by the agency of Alcohol.

Test.—Entirely soluble in one volume of Alcohol, and in two volumes of Rectified Spirit.

Medicinal Properties.

A mild and speedy cathartic. Particularly applicable to constipation from indurated fæces, or after swallowing acrid substances, or on the accumulation of acrid secretions. Used in diseases attended with irritation or inflammation of the bowels, as colic, diarrhœa, dysentery, and enteritis. The safest cathartic for infants, to whom a larger relative dose than to adults may be given, probably from their digesting more of the Oil. An enema may be made of 2 or 3 ounces, with some mucilaginous fluid.

(In all the Pharmacopœias.)

Dose.—½ to 1 oz. for adults, 1 to 3 drms. for infants.

May be administered floating on some aromatic water, or mixed in a cup of hot sweetened coffee; or, for a delicate stomach, as an emulsion with yolk of egg, loaf sugar, and aromatic water.

ROSA CANINA.

HIPS.

The ripe fruit of the *Rosa canina*, deprived of the hairy seeds; indigenous.

Medicinal Properties.

Slightly refrigerant and astringent. Chiefly used in confection, also as a pill basis, and for making electuaries and linctuses.

Preparation.

CONFECTIO.

Hips, 1; Refined Sugar, 2: beat the hips to a pulp in a stone mortar, add the sugar, and mix thoroughly.

(Lond. Edin.; not in others.)

Dose.—1 drm. or more.

ROSA CENTIFOLIA.

CABBAGE ROSE PETALS.

The fresh petals of the *Rosa centifolia,* fully expanded; from plants cultivated in Great Britain.

Medicinal Properties.

Slightly laxative, and sometimes given as a syrup combined with cathartics, but chiefly used in the preparation of rose-water.

Preparation.

AQUA.

Fresh Petals, 1; Water, 2: distil 1.

An agreeable vehicle for medicines; employed in making lotions.

(Same as Lond. Edin. and Fr.; Dub. made with Otto; U. S. Belg. about one-third the strength; Austr. Pr. weaker.)

ROSA GALLICA.

RED ROSE PETALS.

The unexpanded petals of the *Rosa Gallica,* fresh and dried; cultivated in Great Britain.

Medicinal Properties.

Astringent. Often used on account of their colouring matter.

Preparations.

CONFECTIO.

Fresh Red Rose Petals, 1; Refined Sugar, 3: beat the petals to pulp in a stone mortar, add the Sugar, and beat well together.

Used as a pill basis. Applied to aphthous conditions of the mouth as a linctus.

(Lond. Edin. Dub. Austr. Belg. U. S.; not Pr. Fr.)

Dose.—30 to 120 grs.

INFUSUM ACIDUM.

Red Rose Petals, 1; Diluted Sulphuric Acid, ½; boiling Distilled Water, 40: infuse for half an hour with the acid and water; strain.

Astringent. An excellent vehicle for more powerful medicines. An agreeable gargle.

(Same as Dub.; Lond. Edin. and U.S. made with Sugar; Fr. without acid; not in others.)

Dose.—1 to 2 oz.

SYRUPUS.

Dried Rose Petals, 1; Refined Sugar, 15; boiling Distilled Water, 10: infuse the Petals in the Water two hours, squeeze through calico, and filter; add the Sugar and dissolve with heat. The product should weigh 23, and have sp. g. 1·335.

Mildly astringent. Used to add to mixtures on account of its colour.

(Same as Edin. and Dub.; Lond. with fresh Provence Rose; Belg. U.S. Fr.; not in Belg. Austr. and Pr.)

Dose.—1 to 4 drms.

Not Officinal.

INFUSUM ROSÆ CUM ACIDO NITRICO.—Rose Petals, broken small, 2; Dilute Nitric Acid, ½; cold Distilled Water, 20: infuse two hours, frequently stirring, strain and add Powdered Sugar, 1. Used for Quinine draughts.

ROSMARINI OLEUM.

ENGLISH OIL OF ROSEMARY.

The Oil distilled in England from the flowering tops of *Rosmarinus officinalis.*

Sp. g. 0·911, reduced to 0·886 by rectification.

Soluble in Alcohol (sp. g. 0·887), 1 in 40.

Contained in Linimentum Saponis, Tinctura Lavandulæ Composita.

Medicinal Properties.

A powerful stimulant. Used in hysteria and nervous headaches; externally as a rubefacient, and for its odour.

Dose.—2 to 5 minims, in pill, Sugar, or emulsion.

Preparation.

SPIRITUS.

English Oil of Rosemary, 1; Rectified Spirit, 9: dissolve.

(Lond. 1 in 640; Edin. Austr. Fr. from flowering tops; not in Dub. Belg. Pr. U.S.)

The Brit. is thus 64 times stronger than Lond., but it is stated to be only 31 times stronger.

Dose.—10 to 30 minims.

RUTÆ OLEUM.

ENGLISH OIL OF RUE.

$C_{28}H_{28}O_3$.

The Oil distilled in England from the fresh leaves and unripe fruit of the *Ruta graveolens.*

Medicinal Properties.

Stimulant and antispasmodic. Given in hysteria, convulsions, and amenorrhœa.

(In Lond. Edin. Fr. Austr. and Belg.; not in Dub. Pr. and U.S.)

Dose.—2 to 6 minims in emulsion.

SABADILLA.

CEVADILLA.

The dried fruit of the *Asagræa officinalis,* imported from Vera Cruz and Mexico.

Medicinal Properties.

An acrid, drastic emeto-cathartic, operating occasionally with great violence; used as an anthelmintic in tænia, but Male Fern is safer and equally effective. May be used cautiously for pediculi.

Chiefly introduced into the Pharmacopœia for the purpose of making Veratria, and might have been placed in the Appendix A.—*See* VERATRIA.

Dose.—In powder, 4 to 6 grs.

SABINA.

SAVIN.

The fresh and dried tops of the *Juniperus Sabina* collected in spring from plants cultivated in Britain.

Medicinal Properties.

A powerful local and general stimulant, diaphoretic, emmenagogue, and anthelmintic; used occasionally in gout and chronic rheumatism. The dried leaves, or powder, externally as a local stimulant or escharotic, applied to warts, flabby ulcers, etc. The expressed juice diluted, or an infusion, as a lotion for gangrenous sores, scabies and tinea capitis.

Dose.—In powder, 5 to 15 grs. two or three times daily; the powder and tincture are convenient forms of administration.

Preparations.

OLEUM.

The Oil distilled in England from fresh Savin, sp. gr. 0·915.

(In all the Pharmacopœias.)

Dose.—2 to 5 minims.

TINCTURA.
Savin, recently dried and bruised, 1; Proof Spirit, 8: macerate forty-eight hours, with 6 of the spirit, agitating occasionally; pack in a percolator, and when it ceases to drop pour on the remaining spirit, press and filter, and add spirit to make 8.

A new preparation.

(Belg. 1 in 6.)

Dose.—15 to 30 minims.

UNGUENTUM.
Fresh Savin, bruised, 8; White Wax, 3; Prepared Lard, 16: melt the lard and the wax together, add the Savin, digest twenty minutes, strain; should be freshly prepared, as it does not keep.

To keep up suppuration from a blister or issue by preventing it from healing, and for application to indolent ulcers.

(Nearly as Lond. Edin. and Belg.; Dub. with powder; not in Fr. Austr. Pr.)

SACCHARUM ALBUM.

REFINED SUGAR.

$C_{12}H_{11}O_{11}$.

The crystallized refined juice of the stem of the *Saccharum officinarum;* cultivated in the West Indies and other tropical countries.

Solubility: in Water, 100 in 45, measures 113; in Rectified Spirit, 1 in 100.

Medicinal Properties.

Demulcent, used in catarrhal affections in the form of candy, syrup, etc. Employed in pharmacy to render oils miscible with water. Enters into the composition of several mixtures and pills, and all the confections, syrups, and troches.

Preparation.

SYRUPUS.
Refined Sugar, 6; Distilled Water, 3: dissolve the sugar in the water with the aid of heat, and when cool add water to weigh 9, and measures very nearly 7. Sp. g. 1·330.

(In all the Pharmacopœias.)

SACCHARUM LACTIS.

SUGAR OF MILK.

$C_{24}H_{24}O_{24}$.

Crystallized Sugar obtained from the Whey of Cow's Milk by evaporation; manufactured largely in Switzerland.

Solubility: in Cold Water, 1 in 5; Boiling Water, 1 in 3; slightly soluble in Rectified Spirit.

Sp. g. 1·540.

Medicinal Properties.

As a non-nitrogenous article of diet in consumption and other pulmonary diseases, and in cases of extreme irritability of the stomach, following profuse loss of blood. Used to mix with the food of children; dissolved in water, and mixed with cow's milk, it forms a good substitute for that of the mother.

(Not in Lond. Edin. Fr., but in all others.)

Dose.—1 to 2 drms. in water.

Not Officinal.

SALICINUM.

SALICIN.

$C_{42}H_{20}O_{22}$.

A neutral substance obtained from the bark of the *Salix alba.*

In silky acicular crystals and laminæ, white, bitter, inodorous.

Solubility: in Water, 1 in 18.

Medicinal Properties.—Tonic, analogous to those of the Sulphate of Quinia, and less liable to irritate the stomach; employed in dyspepsia and intermittent diseases.

Dose.—10 to 30 grs.

SAMBUCUS.

ELDER FLOWERS.

The fresh flowers of the *Sambucus nigra*, from indigenous plants.

Medicinal Properties.

Mildly stimulant. Externally, as a discutient, in the form of poultice, fomentation, or ointment.

Preparations.

AQUA.

Fresh Elder-flowers, separated from the stalks, 1; Water, 2: distil 1.

(Same as Lond. and Edin.; Belg. ⅓ the strength; Austr. Fr. ¼; not in Dub. U. S. Pr.)

It is chiefly used as a perfume.

There is always a large quantity of vegetable matter in this water, which causes it to grow acid and impairs its odour. In practice it is better to distil of double strength and dilute when required.

Not Officinal.

UNGUENTUM.—Elder Flowers, fresh, and Lard, equal parts: melt the Lard, add the Flowers, continue the heat, stir for ten minutes, and strain.

(Lond.; not in Edin. and Dub.)

A cool, soothing application to irritable sores.

SANTONINUM.

SANTONIN.

$C_{30}H_{18}O_6$.

A crystalline neutral principle, obtained from the *Artemisia Santonica* or *Semen contra*.*

In colourless, flat, rhombic prisms, feebly bitter.

Solubility: in Rectified Spirit, 1 in 50. Sparingly soluble in Water.

Test.—Not dissolved by diluted mineral acids. Entirely destructible by a red-heat with free access of air.

Medicinal Properties.

Anthelmintic. Being tasteless, it is a pleasant vermifuge for children. Useful both against tape and thread-worms. Said to have been used with success in intermittents.

Dose.—4 to 6 grs. for children, followed by a brisk cathartic.

SAPO.

SOAP.

Soaps embrace all those compounds which result from the reaction of salifiable bases with fats and oils.

SAPO DURUS.

HARD OR WHITE CASTILE SOAP.

Soap made with Olive Oil and Soda.

Test.—Entirely soluble in Rectified Spirit.

This is an error, since the Author finds that of 30 grains of White Castile Soap, digested for four days in 1 ounce of Rectified Spirit, only 24 grains are dissolved.

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* *Semen contra* is not a seed, but the unexpanded flower-heads of a species of *Artemisia*, imported from Russia, and is the only so-called worm-seed which yields Santonin in quantity worth extracting.

Medicinal Properties.

Laxative, antacid, and antilithic. Combined with Rhubarb, it is administered in dyspepsia attended with constipation and torpor of the liver. In large and frequent doses it is most effective in removing gall-stones.

(In all the Pharmaeopœias.)

Dose.—5 to 15 grs.

Preparations.

EMPLASTRUM.

Hard Soap, in powder, 6; Litharge Plaster, 36; Resin, in powder, 1: to the Litharge Plaster, previously melted, add the Soap and the Resin, first liquefied, then, constantly stirring, evaporate to a proper consistence.

(Same as Lond.; Edin. 1 in 7; Dub. U. S. 1 in 10; Belg. 1 in 17; Pr. 1 in 14; Austr. with Camphor; not in Fr.)

LINIMENTUM.

Hard Soap, 2½ oz.; Camphor, 1¼ oz.; English Oil of Rosemary, 3 drms.; Rectified Spirit, 18 oz.; Distilled Water, 2 oz.: mix the water with the spirit, add the other ingredients, digest at a temperature not exceeding 70° F., agitating occasionally till all are dissolved.

So far from being all dissolved, as the British Pharmaeopœia states, the Author finds that there is a considerable quantity left undissolved.

(Nearly same as Lond. Edin. Dub. and U. S.; Austr. and Belg. 1 in 8; Pr. 1 in 16.)

Contained in Linimentum Opii.

Not Officinal.

Glycerine Soap, Juniper Tar Soap, Bicknell's Pure Yellow Soap, Oxide of Zinc Soap, are occasionally prescribed for skin diseases.

SAPO MOLLIS.

SOFT SOAP.

Soap made with Olive Oil and Potash.

Test.—Entirely soluble in Rectified Spirit; not imparting an oily stain to paper.

(Lond. and Edin.; not in other Pharmacopœias.)

SARSA.

JAMAICA SARSAPARILLA.

The dried root of the *Smilax officinalis,* native of Central America; imported from Jamaica. Brought into Europe about 1630.

Medicinal Properties.

Alterative and tonic. It is of especial service in secondary syphilis, alone or in combination with other remedies. Also in chronic rheumatism, with sudorifics and anodynes, and in cachectic diseases, chronic abscesses attended with profuse discharge, and many maladies connected with a depraved state of the system.

The virtues of Sarsaparilla have been much disputed, on account of the difficulty of explaining its action.

Preparations.

DECOCTUM.

Jamaica Sarsaparilla, not split, 1; boiling Distilled Water, 12: digest for an hour, boil ten minutes, cool, and strain. The product should measure 8.

(About the same as Lond. Edin. Dub. and Belg.; not in others.)

Dose.—½ to 1 pint daily, in divided doses.

DECOCTUM COMPOSITUM.

Jamaica Sarsaparilla, not split, 20; Sassafras, in chips, 2; Guaiac Wood turnings, 2; fresh Liquorice Root, 2; Mezereon, 1; boiling Distilled Water, 240: digest for one hour, boil ten minutes, cool, and strain. The produce should measure 160.

(About the same as Lond. Edin. Dub. and U. S.; not in others.)

Dose.—½ pint daily, in divided doses.

EXTRACTUM LIQUIDUM.

Jamaica Sarsaparilla, 16; Distilled Water (temp. 160° F.), 280; Rectified Spirit, 1: macerate in half the water for six hours and decant the liquor; digest the residue in the remainder of the water for six hours more, mix the liquors, express and filter, evaporate by water-bath to 7 or until it has a sp. g. 1·130, when cold add the spirit. Sp. g. should be about 1·095.

A new preparation.

(Double the strength of U. S.)

Dose.—1 to 4 drms.

Not Officinal.

Extractum Sarsæ Compositum Liquidum, Liquid Compound Extract of Sarsaparilla.—Jamaica Sarsaparilla, cut transversely, 1 lb.; Sassafras, sliced, 2 oz.; Guaiacum Wood, rasped, 2 oz.; Liquorice Root, bruised, 2 oz.; Mezereon, cut, 1 oz.; Rectified Spirit, 1 oz.; Distilled Water, 6 pints: macerate the first five ingredients in one-half of the water, at a temperature not exceeding 160° F., for six hours, and decant the liquor; digest the residue in the remainder of the water for the same time, and express; filter the mixed liquors, and evaporate by a water-bath to 7 fluid ounces, when cold add the spirit.

A new preparation.

(Double the strength of U. S.)

SASSAFRAS.

SASSAFRAS.

The dried root of the *Sassafras officinalis*, from North America.

Medicinal Properties.

Stimulant. Used as an adjuvant to other medicines, the flavour of which it improves, while it renders them more cordial to the stomach. Used in chronic rheumatism, cutaneous eruptions, scorbutic and syphilitic affections.

The bark of the root is now an article of commerce.

Contained in Decoctum Sarsæ Compositum.

(Lond. Edin. Dub. U. S. and Belg.; not in others.)

SCAMMONIUM.

SCAMMONY.

A Gum Resin obtained from the root of *Convolvulus Scammonia*, a native of Syria, by excision of the crown of the root, the juice of which, collected in shells, is suffered to concrete. The purest is known in commerce as Virgin Scammony.

Solubility: almost entirely dissolved in boiling diluted Rectified Spirit.

Test.—It does not effervesce with Hydrochloric Acid. Boiling Water, agitated with the powder, cooled and filtered, does not strike a blue colour with tincture of Iodine—indicating absence of Starch. Ether removes from 80 to 90 per cent. of Resin; and what remains is chiefly soluble Gum with a little moisture.

Medicinal Properties.

A powerful drastic cathartic, apt to occasion griping. Usually given with Calomel, and its action is corrected by the Sulphate of Potassa. May be used in all cases of torpid bowels, and for removing scybala.

Dose.—5 to 15 grs. of pure Scammony.

Preparations.

CONFECTIO.

Scammony or Resin of Scammony, in fine powder, 24; Ginger, in fine powder, 12; Oil of Caraway, 1; Oil of Cloves, ½; Syrup, 24; Clarified Honey, 12: rub the powders with the Syrup and the Honey into a uniform mass, then add the Oils, and mix.

(Same as Dub.; Lond. about the same strength; not Edin. nor foreign Pharmacopœias.)

Dose.—10 to 30 grs.

MISTURA.

Resin of Scammony, 4 grs.; Milk, 2 oz.: triturate and form an emulsion.

(Nearly as Edin.; not in others.)

Dose.—The quantity of the formula for an adult, half for a child.

PULVIS.

Scammony, 4; Jalap, 3; Ginger, 1: mix and reduce to fine powder.

(Nearly as Lond. Edin. Dub.; not in others.)

Dose.—10 to 20 grs.

SCAMMONIÆ RADIX.

The dried root.

Medicinal Properties.

An energetic cathartic. May be used when brisk action is needed, but on account of its griping properties it is rarely used alone. In combination, it promotes the action of other medicines, whilst its own harshness is mitigated.

(A new introduction.)

SCAMMONIÆ RESINA.

RESIN OF SCAMMONY.

Made by a patented process, and said to be equal to Virgin Scammony. A formula for its preparation is given in the British Pharmacopœia: it is difficult, however, to obtain the root, and when obtained it is a question whether the patentee would permit the Resin to be made.

It is soluble in Ether.

A new preparation.

SCILLA.

SQUILL.

The bulb of the *Urginea Scilla,* from the Mediterranean coasts, sliced and dried.

Medicinal Properties.

A stimulant expectorant and diuretic. It increases the secretion of the bronchial mucous membrane and aids the expectoration of mucus. As an expectorant, it is used with Ipecacuanha and Ammoniacum; as a diuretic, generally given with Mercury.

Preparations.

PILULA COMPOSITA.

Squill, in fine powder, 1¼; Ginger, in fine powder, 1; Ammoniac, in powder, 1; Hard Soap, 1; Treacle, by weight, 2 or a sufficiency: reduce the Soap to powder, triturate with the other ingredients, adding the Treacle last, beat into a mass.

(Same as Dub.; one-third weaker than Edin.; one-third stronger than Lond. U. S. and Belg.; not in others.)

Dose.—5 to 10 grs.

SYRUPUS.

Squill, bruised, 2½; Dilute Acetic Acid, 20; Refined Sugar, 32; Proof Spirit, 1½: digest the Squill in the dilute Acetic Acid for three days, with a gentle heat, express, add the spirit, filter, then add the Sugar, and dissolve with heat. The product should weigh 50, and have the sp. g. 1·330.

(Nearly as Edin. Dub. Belg. Austr.; not in Lond. Fr. and Pr.)

Dose.—1 to 2 drms.

TINCTURA.

Squill, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator, let it drain, and pour on the remaining spirit; when it ceases to drop, press, filter, and make up to 8.

(Same as Lond. Edin. Dub. and U. S.; Fr. 1 to 5; Belg. 1 to 6; Pr. 1 to 7; not in Austr.)

Dose.—15 to 30 minims.

Not Officinal.

OXYMEL SCILLÆ (Lond.).—Vinegar* of Squills, 5; Honey, 8: evaporate the Vinegar over a slow fire to one-fourth, mix with the Honey made hot.

The evaporation of the Vinegar should be conducted with great care, lest the bitter principle of the Squill be injured; perhaps a stronger Vinegar *without heat* would be preferable.

Expectorant in chronic coughs.

Dose.—½ to 2 drms.

SCOPARIUS.

BROOM TOPS.

The tops of the *Sarothamnus*, fresh and dried; indigenous.

Medicinal Properties.

Diuretic and cathartic. Employed in dropsical complaints.

Preparations.

DECOCTUM.

Broom Tops, dried, 1; Distilled Water, 20: boil ten minutes and strain. The produce should measure 16.

(In Lond. and Edin. compound; not in others.)

Dose.—2 to 4 oz.

SUCCUS.

Bruise fresh Broom Tops in a stone mortar, express the juice, and add one-third of Rectified Spirit; set aside seven days and filter. Keep it in a cool place.

Dose.—½ to 1 drm.

A new preparation.

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* Vinegar of Squills is made by digesting for three days 1 part of Squill in 8 of diluted Acetic Acid.

SENEGA.

SENEGA.

The dried root of the *Polygala Senega*, from North America.

Medicinal Properties.

A stimulating expectorant and diuretic, and, in large doses, emetic and cathartic.

Dose.—In powder, 15 to 20 grs.

Preparations.

INFUSUM.

Senega, bruised, 1; boiling Distilled Water, 20: infuse one hour and strain.

(In place of Decoctum, Lond.; not in other Pharmacopœias.)

Dose.—1 to 2 oz.

TINCTURA.

Senega, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally, pack in a percolator, and let it drain, pour on the remaining spirit; when the fluid ceases to drop, press, filter, and make up 8.

Dose.—1 to 2 drms.

A new preparation.

SENNA.

SENNA.

The leaves of various species of *Cassia*. The British Pharmacopœia recognizes two kinds: the Alexandrian Senna (*Senna Alexandrina*), imported from Alexandria, being the leaves of the *C. lanceolata* and *C. obovata* carefully freed from the flowers, pods, and leaf-stalks; and the Tinnivelly Senna (*Senna Indica*), the leaves of the *C. elongata* from plants cultivated in southern India. The Alexandrian Senna must be free from admixture of leaves, flowers, and fruit of the Arghel (*Solenostemma Arghel*). The unequally oblique base and freedom from bitterness distinguish the Senna from Arghel leaves, which are also thicker, greyer, and more wrinkled.

Medicinal Properties.

A general and efficient laxative in cases of occasional or habitual constipation. Given alone, it occasions griping and nausea; it is therefore best administered with aromatics. Used in dyspepsia, and in febrile and inflammatory diseases; but as it is somewhat drastic it must be avoided when the alimentary canal is much affected.

The different kinds of Senna are of nearly equal medicinal value.

Dose.—Of powder, 10 to 30 grs.

Preparations.

CONFECTIO.

Senna, in fine powder, 7; Coriander, in fine powder, 3; Figs, 12; Tamarinds, 9; Cassia Pulp, 9; Prunes, 6; Extract of Liquorice, ¾; Refined Sugar, 30; Distilled Water, 24. Boil the Figs gently in the water four hours; express and strain; add water to make up 24: to this add the Prunes, boil four hours, then add the Tamarinds and Cassia; macerate a short time, and press the pulp through a hair sieve; dissolve the Sugar and Liquorice in the mixture with gentle heat, add the Senna and Coriander. The result should weigh 60.

Dose.—½ to 2 drms.

INFUSUM.

Senna, ½ oz.; Ginger, sliced, 30 grs.; boiling Distilled Water, 10 oz.: infuse one hour and strain.

(Same strength as Lond. Edin. Dub.; not in others.)

Dose.—1 to 3 oz.

As this infusion quickly spoils by keeping in warm weather, the addition of 1 gr. of Nitre to each ounce will be found to impart great conservative power.

SYRUPUS.

Senna, broken small, 8; Oil of Coriander, *q. s.*; Refined Sugar, 12; Distilled Water, 50, or a sufficiency; Rectified Spirit, 2: digest the Senna in three-fourths of the water twenty-four hours, press, and strain; digest the marc in the remainder of the water six hours, press, and strain; evaporate the mixed liquors to 5; when cold, add the Rectified Spirit, containing 1½ minim of Oil of Coriander to each ounce of spirit. Filter, and wash the filter with water to make up 8; add the Sugar, and dissolve with gentle heat. Should weigh 21, and have a sp. g. 1·310.

(A new formula, considerably stronger than Lond. and Edin.; Belg. 1 in 10; not in others.)

Dose.—1 to 2 drms.

TINCTURA.

Senna, broken small, 5; Raisins, free from seeds, 4; Caraway, 1; Coriander, 1; Proof Spirit, 40: macerate the ingredients forty-eight hours in three-fourths of the spirit, agitating occasionally; pack in a percolator, and when it ceases to drop pour on the remaining spirit; press, filter, and make up 40.

(Lond. 1 in 11; Edin. and Dub. 1 in 10; Fr. 1 to 5; Belg. 1 to 6; not in U. S. Austr. Pr.)

Dose.—2 to 8 drms.

SERPENTARIA.

SERPENTARY.

The dried root of the *Aristolochia Serpentaria*, from the southern part of North America.

Medicinal Properties.

Stimulant, tonic, and diaphoretic. A valuable remedy in the low stage of typhus, combined with Sesquicarbonate of Ammonia, given when the tongue is dry and brown or black, and the pulse low. Used in dyspepsia and chronic rheumatism.

Dose.—Of the powder 10 to 15 grs.

Preparations.

INFUSUM.
Serpentary, 1; boiling Distilled Water, 40: infuse two hours, and strain.

(Same as Lond. and Edin.; not in Dub.; U. S. 1 in 32; not in others.)

Dose.—1 to 2 oz.

TINCTURA.
Serpentary, bruised, 1; Proof Spirit, 8: macerate forty-eight hours, with 6 of the spirit, agitating occasionally, pack in a percolator and let it drain; pour on the remaining spirit, and when it ceases to drop, press, and wash the marc to make 8.

(Lond. Edin. 1 in 11; not in Dub.; Belg. 1 to 6; not in Fr. Pr. Austr.)

Dose.—½ to 2 drms.

SEVUM PRÆPARATUM.

PREPARED SUET.

The internal fat of the abdomen of the sheep, purified by melting and straining.

Contained in Emplastrum Cantharidis and Unguentum Hydrargyri.

(Lond. and Edin.; not in Dub.; in all others.)

Not Officinal.

SIMARUBA.

BITTER SIMARUBA, OR MOUNTAIN DAMSON.

The root bark of the *Simaruba officinalis*, from the West Indies.

Medicinal Properties.—A bitter tonic. In large doses causes nausea; is diaphoretic and diuretic. Principally used in the asthenic and chronic form of dysentery; may be combined with opium in epidemic dysentery, and in the advanced stages of diarrhœa.

Preparation.

INFUSUM.
Simaruba, bruised, 3 drms.; boiling Water, 1 pint: infuse two hours.

(As Edin.; not in Lond.; Dub. 2 drms. in 9 oz.; Fr. 1 in 30; not in others.)

Dose.—1 to 2 oz.

SINAPIS.

MUSTARD.

The seeds of the *Sinapis nigra* and *S. alba* reduced to powder, mixed.

Test.—A decoction cooled is not made blue by Tincture of Iodine—indicating absence of Starch.

Medicinal Properties.

Powerfully stimulant; swallowed whole as a laxative. The powder as an emetic, or as a rubefacient.

Preparation.

CATAPLASMA.

Mustard, in powder, 2; Linseed Meal, $2\frac{1}{2}$; boiling Water, 10: mix the Linseed Meal with the water, and add the Mustard, constantly stirring.

(Lond. equal quantities of Linseed Meal and Mustard; Fr. Mustard only; not in others.)

SODIUM.

SODIUM.

Na; eq. 23.

The metallic base of the alkali Soda, discovered by Sir Humphry Davy in 1807, is a soft, malleable, sectile solid, of a silver-white colour, possessing a high degree of metallic lustre, which quickly tarnishes on exposure to the air. Like Potassium, it has a strong affinity for Oxygen: when thrown on cold water, it instantly fuses to a globule, without combustion, and traverses the surface in all directions; on hot water, it inflames. Sp. g. 0·970.

There are no direct officinal preparations of Sodium; its oxide alone is salifiable, from which are derived the preparations of the Pharmacopœia. The Chloride of Sodium is obtained by dissolving Rock Salt in water, and recrystallizing it; some, however, absolutely pure and perfectly white, is found embedded in the common brown Rock Salt.

From the Chloride the Carbonate is now prepared, from which all the other preparations of Soda are made. The Sulphate of Soda and Aqua Sodæ Effervescens (Edin.) are omitted from the British Pharmacopœia.

The following are the preparations of Soda given in the British Pharmacopœia:—

SODÆ ARSENIAS.
SODÆ ARSENIATIS LIQUOR.
SODÆ BIBORAS.—*See* Borax.
SODÆ BICARBONAS.
SODÆ CARBONAS.
SODÆ CARBONAS EXSICCATA.
SODA CAUSTICA.
SODÆ LIQUOR.—*See* Soda Caustica.
SODÆ CHLORATÆ LIQUOR.
SODÆ ET POTASSÆ TARTRAS.
SODÆ PHOSPHAS.

The Acetate, Hyposulphite, Nitrite, and Valerianate of Soda will be found in the Appendix.

SODÆ ARSENIAS.

ARSENIATE OF SODA.

$2NaO,HO,AsO_5+14HO$; eq. 304.

In colourless transparent prisms.

Solubility: in water, 1 in 2.

Test.—Heated to 300°, it loses 40·38 per cent. of its weight. A watery solution of 10 grains of the residue, heated with 5·3 measures of the volumetric solution of Soda, continues to give a precipitate with the volumetric solution of Nitrate of Silver until 161·3 measures of the latter have been added. This precipitate is Arseniate of Silver, and proves that the proper quantity of Arsenic Acid is present.

A new preparation.

Preparation.

LIQUOR.

Arseniate of Soda (rendered anhydrous by a heat not exceeding 300° F.), 4 grs.; Distilled Water, 1 oz.: dissolve.

Dose.—5 to 10 minims.

Medicinal Properties.

Similar to those of the Arsenite of Potash, or Fowler's Solution. Used in skin and nervous diseases. It cures eczema more speedily than Liquor Arsenicalis, producing less gastric disturbance and less irritability of the conjunctiva.

It is of about the same strength as Liquor Arsenicalis.

A new preparation.

SODÆ BICARBONAS.

BICARBONATE OF SODA.

$NaO,HO,2CO_2$; eq. 84.

In powder, or small opaque irregular scales, white, of a saline not unpleasant taste.

Solubility: in water, 1 in 10.

Test.—When supersaturated with Nitric Acid, its solution scarcely precipitates with Chloride of Barium or Nitrate of Silver—indicating a mere trace of sulphate and chloride. 84 grains, exposed to a red-heat, leave 53 of alkaline residue (carbonate), which requires for neutralization 100 measures of the volumetric solution of Oxalic Acid.

(In all the Pharmacopœias.)

Medicinal Properties.

Analogous to those of the Bicarbonate of Potash; it is less caustic and irritating than Carbonate of Soda. Employed as an antacid in dyspepsia; useful in calculus with excess of Uric Acid, and as a resolvent or alterative in some forms of inflammation, glandular affections, syphilis, and scrofula. Also as a diuretic in dropsy.

Dose.—10 to 30 grs.

Not Officinal.

Soda Water.—Each bottle contains about 5 grains of Carbonate of Soda.

SODÆ CARBONAS.

CARBONATE OF SODA.

NaO,CO_2+10HO; eq. 143.

In transparent, colourless, laminar crystals of a rhombic shape, efflorescent, with a harsh alkaline taste, and strong alkaline reaction.

Solubility: in Water, 1 in 2. Insoluble in Rectified Spirit.

(In all the Pharmacopœias.)

Native Carbonate of Soda is found chiefly in Hungary, Egypt, and South America, existing either in the earth or in small lakes, whence it is procured by evaporation.

Soda has been largely procured from the combustion of marine vegetables, which furnishes the impure alkalis kelp and barilla, whence it is extracted by the process of lixiviation and crystallization.

It is, however, chiefly procured from sea salt, by converting the salt by Sulphuric Acid into Sulphate of Soda, then by decomposing the sulphate by Carbonate of Lime and Charcoal at a high temperature. This process was discovered in 1784 by Leblanc.

Test.—When supersaturated with Nitric Acid it precipitates only slightly or not at all with Chloride of Barium or Nitrate of Silver—indicating a trace of Sulphate and Chloride. 143 grains require for neutralization at least 96 measures of the standard solution of Oxalic Acid.

Medicinal Properties.

Antacid, antilithic, and resolvent. Given principally in diseases attended with acidity of the stomach, as gout and dyspepsia.

Dose.—10 to 30 grs. in powder, or in bitter infusion.

Preparation.

SODÆ CARBONAS EXSICCATA.

Expose the Carbonate of Soda in a porcelain capsule to a rather strong sand-heat, until the liquor first formed becomes a dry cake. Reduce to powder.

54 grains are equal to 144 grains of crystallized salt.

Dose.—5 to 15 grs. three times daily in pill, with soap and aromatics.

(In all the Pharmacopœias.)

SODA CAUSTICA.

CAUSTIC SODA.

Hydrate of Soda, NaO,HO; eq. 40.

In hard, greyish-white fragments of cakes, very alkaline and corrosive.

Procured by boiling down solution of Soda rapidly in a silver or clean iron vessel, until there remains a fluid of oily consistence, a drop of which, when removed on a warmed glass rod, solidifies on cooling. Pour the fluid on a clean silver or iron plate, and, as soon as it has solidified, break it in pieces.

Solubility: in water, 1 in 1.

Test.—40 grains dissolved in water leave scarcely any sediment, and require for neutralization about 90 measures of the volumetric solution of Oxalic Acid.

Preparation.

LIQUOR SODÆ.

Carbonate of Soda, 7; Slaked Lime, 3; Distilled Water, 40: dissolve the carbonate in the water, boil in a clean iron vessel ten minutes, gradually mixing the lime and stirring constantly; decant into a green glass bottle, with air-tight stopper.

Test.—Sp. g. 1·047. 1 fluid ounce requires for neutralization 47 measures of the volumetric solution of Oxalic Acid. It does not effervesce when added to an excess of dilute Hydrochloric Acid, nor give a precipitate with Lime or Oxalate of Ammonia—indicating absence of Carbonic Acid and Lime. When it is heated with an excess of dilute Nitric Acid, and evaporated to dryness, the residue forms with water a clear solution, which is rendered turbid by Chloride of Barium and by Nitrate of Silver, but not by Ammonia —indicating absence of Magnesia.

100 grains contain 4 grains of Soda.

Medicinal Properties.

Antacid, used in preference to Potash in some stomach diseases.

(Lond. sp. g. 1·061; Dub. 1·056; Fr. Belg. and Pr. 1·335 to 1·340; U. S. 1·071, and contains 5·7 per cent. of Hydrate of Soda.)

Dose.—½ to 1 drm.

SODÆ CHLORATÆ LIQUOR.

SOLUTION OF CHLORINATED SODA.

A mixed solution of Hypochlorite of Soda, NaO,ClO, Chloride of Sodium and Bicarbonate of Soda.

Carbonate of Soda, 12; Chloride of Sodium, 4; Black Oxide of Manganese, in powder, 3; Sulphuric Acid, 2½; Distilled Water, 44: dissolve the powdered Carbonate of Soda in 36 parts of the water in a glass vessel. Mix the Chloride of Sodium and the Oxide of Manganese, place them in a retort, and add the Sulphuric Acid, previously mixed with 3 parts of the water (cool). Heat the mixture gradually, and pass the evolved Chlorine through a wash-bottle containing 5 parts of the water, and afterwards into the solution of Carbonate of Soda. When the disengagement of Chlorine has ceased, transfer the solution to a stoppered bottle, and keep it in a cool and dark place.

Test.—Sp. g. 1·103. 1 drachm added to a solution of 20 grains of Iodide of Potassium in 4 ounces of water, and acidulated with 2 drachms of Hydrochloric Acid, requires for the discharge of the brown colour which the mixture assumes 43 measures of the volumetric solution of Hyposulphite of Soda. It is not precipitated by Oxalate of Ammonia—indicating absence of Lime.

Test explained under Calx Chlorata.

Medicinal Properties.

Stimulant, antiseptic, and resolvent. Used internally in typhus, scarlatina, etc., indicated by great prostration of strength, fetid evacuations, dry and furred tongue; in dysentery, dyspepsia; also in glandular enlargements, and chronic mucous discharges. Locally, in all affections attended with fœtor, and may be applied, diluted, as a gargle, wash, poultice, or by lint. An excellent application to sore nipples. It is also a powerful disinfecting agent, used in preference to Chloride of Lime, because, when the Chlorine has escaped, the lime is left in a caustic condition, and acts corrosively on carpets, etc.

(Lond. Dub. U.S. Belg.; Fr., Liqueur de Labarraque; not in Edin. Pr. or Austr.)

Dose.—20 to 30 minims.

Preparation.

CATAPLASMA.

Solution of Chlorinated Soda, 1; Linseed Meal, 2; boiling Water, 4: add the Linseed Meal gradually to the water, stirring constantly, then mix the solution of Chlorinated Soda.

(Lond. only.)

SODÆ ET POTASSÆ TARTRAS.

TARTRATE OF SODA AND POTASH.

Syn. ROCHELLE SALT.

$NaO, KO, C_8H_4O_{10} + 8HO$; eq. 282.

In colourless transparent prisms, or halves of prisms of the right-rhombic order, generally eight-sided; tasting like common salt.

Solubility: in water, 1 in 2.

Test.—Entirely soluble in cold water. 47 grains heated to redness till gases cease to be evolved leave an alkaline residue (carbonates), which requires for neutralization 30 measures of the volumetric solution of Oxalic Acid.

Medicinal Properties.

A mild, cooling purgative, well suited to delicate and irritable stomachs.

It is not aperient in small doses, their action being to render the urine alkaline.

(In all the Pharmacopœias; Pr., Natro-Kali Tart.)

Dose.—2 drms. to 1 oz.

Not Officinal.

Seidlitz Powder.—Rochelle Salt, 2 drms.; Bicarbonate of Soda, 40 grs.: mix. In a separate paper, 37 grains of Tartaric Acid.

SODÆ PHOSPHAS.

PHOSPHATE OF SODA.

$2NaO,HO,PO_5+24HO$; eq. 358.

In transparent, colourless, rhombic prisms, terminating by four converging planes, efflorescent, tasting like common salt.

Solubility: in water, 1 in 5.

Test.—Heated to dull redness it loses 63 per cent. of its weight, leaving a residue, which, when dissolved in water, gives, with Chloride of Barium, a precipitate entirely soluble in dilute Nitric Acid: Phosphate of Baryta.

Medicinal Properties.

A mild purgative; from its pure saline taste, well suited to children and persons of delicate stomach.

(In all the Pharmacopœias.)

Dose.—½ to 1 oz.

Best given in gruel or weak broth.

SODII CHLORIDUM.

SALT.

Syn. Sodæ Murias.

$NaCl$; eq. 58·5.

In small, white, crystalline grains, or transparent cubic crystals.

Solubility of pure Rock Salt in water, 1 in 2·75.

Test.—Free from moisture. The solution is not rendered hazy by Chloride of Barium nor by Phosphate of Soda, after the addition of a mixed solution of Ammonia and Hydrochlorate of Ammonia. The addition of Solution of Ammonia and Hydrochlorate of Ammonia is to produce with Magnesia, if it be present, Ammonio-phosphate of Magnesia.

(In all the Pharmacopœias.)

Medicinal Properties.

In small doses, stimulant, tonic and anthelmintic; in larger doses, purgative and emetic. It is also antiperiodic in doses of 8 or 12 drachms during the intervals. Locally, as a fomentation to sprains and bruises. As a saltwater-bath (1 pound to 4 gallons), a tonic and excitant of the system, especially in children.

Dose.—10 grs. to 1 drm. as a tonic ; 2 to 4 drms. as a cathartic.

SPIRITUS.

SPIRIT.

All substances which have undergone the vinous fermentation, and in which it is not completely over, contain Alcohol ready formed, which is separated by distillation. The various kinds are distinguished by varieties of flavour and colour. The redistillation of these produces Rectified Spirit.

When spirit is distilled with aromatic vegetables containing volatile oil, the oil rises for the most part with the spirituous vapour and condenses along with it in a state of solution.

The Spirits which were in former Pharmacopœias and omitted from the British are :—Spiritus Ætheris Compositus, Lond.; Ætheris Oleosus, Dub.; Ammoniæ, Edin.; Ammoniæ Fœtidus, Lond. Edin. Dub.; Anisi, Lond.; Carui, Lond. Edin.; Cassiæ, Edin.; Cinnamomi, Lond. Edin.; Lavandulæ Comp. (*see* TINCT. LAVANDULÆ COMP.); Menthæ Viridis, Lond.; Menthæ Pulegii, Lond.; Pimentæ, Lond. Edin.; Vini Gallici, Lond.

The Spirits of the British Pharmacopœia are as follows; the formulæ will be found under the names of the drugs from which they are prepared :—

		Proportion of active ingredients to the whole.
SPIRITUS ÆTHERIS		1 in 3.
SPIRITUS ÆTHERIS NITROSI.		
SPIRITUS AMMONIÆ AROMATICUS.		
SPIRITUS ARMORACIÆ COMP.		1 in 8.
SPIRITUS CAJUPUTI	(Oil)	1 in 10.
SPIRITUS CAMPHORÆ		1 in 10.
SPIRITUS CHLOROFORMI		1 in 20.
SPIRITUS JUNIPERI	(Oil)	1 in 10.
SPIRITUS LAVANDULÆ	„	1 in 10.
SPIRITUS MENTHÆ PIPERITÆ	„	1 in 10.
SPIRITUS MYRISTICÆ	„	1 in 10.
SPIRITUS ROSMARINI	„	1 in 10.
SPIRITUS TENUIOR (Rect. Sp. 5, Water 3).		
SPIRITUS PYROXYLICUS RECTIFICATUS (10 per cent. of water).		
SPIRITUS RECTIFICATUS (16 per cent. of water).		

Alcohol and Alcohol Amylicus will be found in Appendix.

SPIRITUS ÆTHERIS NITROSI.—*See* Ætheris Nitrosi Spiritus.

SPIRITUS PYROXYLICUS RECTIFICATUS.

RECTIFIED PYROXYLIC SPIRIT.

Hydrated Oxide of Methyle, C_2H_3O,HO, with about 10 per cent. of water; a product of the destructive distillation of wood.

Test.—Sp. g. 0·841 to 0·146. Without action on litmus paper; free from smoky taste. Is not rendered turbid by mixture with water.

Medicinal Properties.

Narcotic, sedative, and anti-emetic. It palliates the cough and lessens the febrile excitement of phthisis.

Dose.—10 to 40 minims.

(Dub. only.)

SPIRITUS RECTIFICATUS.

RECTIFIED SPIRIT.

Alcohol, C_4H_5O,HO, with 16 per cent. of water; obtained by the distillation of the fermented saccharine fluids, and by the rectification of the product, if it be not of proper density.

Test.—Sp. g. 0·838. Remains clear when diluted with Distilled Water. Odour and taste purely alcoholic. 4 ounces with 3 measures of the volumetric solution of Nitrate of Silver, exposed for twenty-four hours to bright light and then decanted from the black powder which has formed, undergoes no further change when again exposed to light with more of the test.

These tests are intended to discover the presence of Fusel Oil, and the quantity of it.

Medicinal Properties.

Internally a powerful diffusible stimulant. Used in some states of acute disease characterized by excessive debility. Externally, applied to produce cold by evaporation; when this is repressed it acts as a stimulant. Diluted, it forms a lotion for erysipelas, erythema, burns and scalds while the cuticle is entire, and for sprains and recent bruises.

(In all the Pharmacopœias.)

Preparation.

SPIRITUS TENUIOR. Proof Spirit.

Rectified Spirit, 5; Distilled Water, 3: mix.

Sp. g. 0·920.

(In all the Pharmacopœias. Same as Lond. Dub.; Edin. 0·912; U.S. 0·941; Belg. 0·878.)

Not Officinal.

Mistura Spiritus Vini Gallici.—Brandy, 4 oz.; Cinnamon Water, 4 oz.; the yolks of 2 Eggs; Sugar, ½ oz.; Oil of Cinnamon, 2 minims: mix.

A delicious dose in cases of prostration or last stages of fever.

Dose.—½ to 1½ oz.

Stimulant, restorative.

STRAMONIUM.

STRAMONIUM.

The *Datura Stramonium* cultivated in Britain. The leaves dried, collected when the plants are in flower, and the ripe seeds.

Medicinal Properties.

Influences especially the respiratory organs. Much used in asthma; the leaf chiefly by smoking in the shape of cigarettes. The extract and the tincture made of the seeds are used in convulsive coughs as antispasmodics, and as anodynes in gastrodynia and other painful affections. The extract given with success for hay asthma.

(In all the Pharmacopœias.)

Dose.—Of the leaves powdered, 1 gr. and upwards.

Preparations.

EXTRACTUM.

Pack Stramonium Seeds, coarsely powdered, in a percolator, and add Proof Spirit until the seeds are exhausted. Distil off the spirit, and evaporate the residue by a water-bath to a proper consistence.

(Lond. and Edin. from seeds; Pr. and U. S. from leaves; Belg. both extracts; not in Dub. Austr. Fr.)

Dose.—¼ gr., gradually increasing.

TINCTURA.

Stramonium Seeds, bruised, 1; Proof Spirit, 8: macerate forty-eight hours with 6 of the spirit, agitating occasionally; pack in a percolator, let it drain, and pour on the remaining spirit. When it ceases to drop, press, filter, and add spirit to make 8.

(Not in Lond. and Edin.; Dub. U. S. Austr.; Belg. Pr. Fr. from leaves.)

Dose.—10 to 20 minims.

STRYCHNIA.

STRYCHNIA.

An Alkaloid, $C_{42}H_{22}N_2O_4$; eq. 334; obtained from Nux Vomica.

In right square octahedrons or prisms, colourless and inodorous.

Solubility in water 1 in 5760: insoluble in Alcohol and Ether.

Test.—Not coloured by Nitric or Sulphuric Acid; leaves no ash when burned with free access of air. Indicating absence of Brucia.

Dose.—$\frac{1}{12}$ gr., gradually and slowly increasing.

Divide by trituration with Sugar of Milk before making into pills.

Medicinal Properties.

Similar to those of Nux Vomica.

(In all the Pharmacopœias.)

Preparation.

LIQUOR.

Strychnia in crystals, 4 grs.; dilute Hydrochloric Acid, 6 minims; Rectified Spirit, 2 drms.; Distilled Water, 6 drms.: mix the Hydrochloric Acid with 4 drachms of the water, and dissolve the Strychnia in it by means of heat; then add the spirit and the remainder of the water.

(Belg. half the strength; not in other Pharmacopœias.)

Dose.—10 minims = $\frac{1}{12}$ gr. of Strychnia.

STYRAX PRÆPARATUS.

PREPARED STORAX.

A balsam prepared from the bark of the *Liquidambar orientale* in Asia Minor, purified by means of Rectified Spirit and straining.

Medicinal Properties.

Stimulant and expectorant. Recommended in gonorrhœa and leucorrhœa; said to be equal to Copaiba, and less disagreeable.

Dose.—10 to 20 grs. twice a day, gradually increasing.

Contained in Tinctura Benzoini Comp.

SUCCI.

JUICES.

These preparations were introduced by the author in 1832. It is true they are in some foreign Pharmacopœias, but there is no admixture of spirit for preserving them.

The following have been introduced into the British Pharmacopœia:—

SUCCUS CONII.
SUCCUS SCOPARII.
SUCCUS TARAXACI.

These consist of 3 parts of Juice and 1 of Rectified Spirit.

SULPHUR.

SULPHUR.

S; eq. 16.

Sulphur occurs native, and is found in masses or in the powdery form mixed with various impurities. It is abundant in volcanic countries, as in Sicily, Naples, and the Roman States. It exists largely in this country in combination with Iron and Lead. It readily sublimes, and when washed is called washed or sublimed Sulphur.

SULPHUR SUBLIMATUM.

SUBLIMED SULPHUR.

Test.—Entirely volatilized by heat, does not redden litmus paper. Indicating absence of sulphurous and sulphuric acids. Solution of Ammonia, agitated with it and filtered, does not on evaporation leave any residue.

Insoluble in water.

Medicinal Properties.

Laxative, diaphoretic, and resolvent; evidently passes off by the pores of the skin. It is chiefly employed in hæmorrhoidal affections, chronic rheumatism; externally for scabies.

(In all the Pharmaeopœias.)

Dose.—1 to 3 drms. in treacle or milk.

Preparations.

CONFECTIO.

Sublimed Sulphur, 4; Acid Tartrate of Potash, 1; Syrup of Orange Peel, 4: triturate.

(Same strength as Dub.; not in other Pharmaeopœias.)

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ oz.

UNGUENTUM.

Sublimed Sulphur, 1; Prepared Lard, 4: mix.

(Same as Edin. and Dub.; Fr. and Belg. 1 in 6; Lond. and U.S. 1 in 3; not in Austr. and Pr.)

SULPHUR PRÆCIPITATUM.

PRECIPITATED SULPHUR.

Test.—Entirely volatilized by heat: under the microscope it is seen to consist of opaque globules without any admixture of crystalline matter; otherwise corresponds with Sublimed Sulphur.

Medicinal Properties.

Similar to those of Sulphur Sublimatum, only more active.

SYRUPI.

SYRUPS.

Syrups are apt to ferment or mould when made with too little sugar, and to crystallize when too concentrated; to avoid these inconveniences which have arisen from former instructions for the preparation of this class of medicines, the British Pharmacopœia directs that the product of each syrup shall be made up to one constant weight, thereby ensuring uniformity of consistence, which is perhaps as good a practical guide as taking the specific gravity, when cooled to 60° F. The Dublin Pharmacopœia directed that in the case of simple syrup the specific gravity should be given, namely, 1·330, and this gravity is a very proper one for ordinary temperatures, but it must be understood that if the syrup be exposed to a very low temperature, say 40° F., it may crystallize. It keeps perfectly well, however, at a range of temperature from 50° upwards. Of course the more refined the sugar, the cleaner and lighter in colour will be the syrup, but even with the best sugar a little scum will form on the surface, which must be removed; when straining is required, it must be done whilst the syrup is hot, and through flannel, returning the first runnings, if not quite bright, into the bag. Syrups keep best in full bottles; when a bottle has remained half empty a short time, although of the right density at first, it is very apt to crystallize; and when kept in large jars, say of from 8 to 10 gallons, with loose covers, the sides are generally studded with crystals, and the syrup is thus frequently rendered too weak to keep when sent out. To prevent fermentation, for instance, in the Syrup of Poppies, several additions have been proposed to be made, but they have not succeeded because, in our former processes for preparing the syrup, the matter which is the cause of the fermentation was not removed; in the new process Rectified Spirit is employed for that purpose, and the result is that Syrup of Poppies, which in the summer frequently fermented so much that it rushed out of the bottles, now remains unaltered. It is, however, necessary that no more spirit be added than is ordered, for a larger quantity is very apt to cause deposition of crystals.

In making simple syrup from any sugar requiring white of egg to render it perfectly bright, the egg should be beaten into a froth, and not added till the syrup has become hot enough to coagulate it; it should then be poured quickly in, and well stirred up with the syrup; the air enclosed in the froth causes the coagulated albumen to rise to the surface, so that it may be effectually removed by skimming, whereas, if it is mixed with the syrup before it is heated, the air escapes as it warms up, and a good part of the albumen does not rise; still, by straining the syrup, it may be made bright.

Syrup of Lemon Juice, if kept long, deposits grape sugar, and should therefore be made in smaller quantity, and more frequently than the other syrups. The Syrups of Orange and Ginger are now made from their tinctures, which give just as good a flavour, and produce much brighter syrups, besides the advantage of avoiding the starch and other matters which were contained in the former syrups. The Syrup of Rose is now made with the red roses. The Syrup of Senna, which was previously the exception of the syrups, being prepared with treacle, is now made with refined sugar like the rest, and being treated like the Poppies, no longer ferments; it is very palatable and sufficiently active. The Syrup of Tolu is made by the London process. Syrup of Violets and others of little medicinal value have not been admitted into the British Pharmacopœia.

A good and expeditious method of making Syrup of Iodide of Iron is introduced; still the Iodide is not entirely protected by the sugar. The only way in which this can be effectually done is by a solution in water having a coil of iron-wire reaching throughout the whole length of the column, as originally proposed by the Author.

The syrups of former Pharmacopœias omitted from the British are the following:—Syrupus Aceti, Edin.; Acidi Citrici, Dub.; Althææ, Lond. Edin.; Cocci, Lond.; Croci, Lond. Edin. Dub.; Ipecacucanhæ, Edin.; Morphiæ Acetatis, Dub.; Morphiæ Muriatis, Dub.; Rhamni, Lond. Edin.; Rosæ (Centifoliæ), Lond. Edin.; Sarsæ, Lond. Edin.; Violæ, Lond. Edin.

The new introductions are:—Syrupus Aurantii Floris; Ferri Phosphatis.

The following are the syrups of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

SYRUPUS AURANTII.
SYRUPUS AURANTII FLORIS.
SYRUPUS FERRI IODIDI, 5 grains in each drachm.
SYRUPUS FERRI PHOSPHATIS, 2 grains in each drachm.
SYRUPUS HEMIDESMI.
SYRUPUS LIMONIS.
SYRUPUS MORI.
SYRUPUS PAPAVERIS.
SYRUPUS RHŒADOS.
SYRUPUS ROSÆ GALLICÆ.
SYRUPUS SCILLÆ.
SYRUPUS SENNÆ.
SYRUPUS TOLUTANUS.
SYRUPUS ZINGIBERIS.

TABACUM.

LEAF TOBACCO.

The dried leaves of the *Nicotiana Tabacum*, cultivated in America.

In large, mottled brown, ovate or lanceolate, acuminate leaves, bearing numerous short glandular hairs, having a peculiar heavy odour and nauseous-bitter acrid taste.

Test.—Not manufactured.

From the leaf of the plant are derived:—

NICOTIN, a nearly colourless fluid, sp. g. 1·048, of an acrid, burning taste, inflammable, miscible with water, ether, alcohol, and the fixed oils; capable of being formed into crystalline salts; its formula is $N_2C_{20}H_{14}$, eq. 162. To this alkaloid Tobacco owes its activity. Nicotin is a powerful poison.

Nicotianin, a fatty substance, having the smell of tobacco smoke, with an aromatic and somewhat bitter taste.

Medicinal Properties.

Smoked, it is expectorant, sedative, narcotic, and emetic; it is dangerous on account of its poisonous properties.

(In U. S.; not in other Pharmacopœias.)

Preparation.

ENEMA.

Leaf Tobacco, 20 grs.; boiling Water, 8 oz.: infuse half an hour, and strain.

(Same as Lond. Edin. Dub.; not in others.)

Used in strangulated hernia, obstinate constipation, and retention of urine.

TAMARINDUS.

TAMARIND.

The preserved pulp of the fruit of the *Tamarindus Indica,* imported from the West Indies.

Test.—A piece of bright iron left in contact with the pulp for an hour does not exhibit any deposit of copper.

Medicinal Properties.

Refrigerant and slightly laxative. Infused with water, forms a cooling drink in febrile affections.

(In all the Pharmacopœias, except Austr. Fr.)

Contained in Confectio Sennæ.

TARAXACUM.

DANDELION ROOT.

The fresh roots of the *Taraxacum Dens-Leonis*, gathered between September and February from meadows and pastures in Britain.

Much difference of opinion exists as to the proper time of taking up the root. Some think that the winter, when it yields the thick albuminous juice, is the best; others prefer the thin and bitter juice yielded by the root in the early summer. The author inclines to the former opinion, and has so expressed himself in an article furnished to Mr. Brande, and inserted by him in his 'Materia Medica.' Observations made throughout the year are there given. Juice taken from roots dug up in November, before any frost appeared, had a specific gravity 1·080; 28 pounds of root yielded 7 pounds of juice, from which, when heated to 212° F., besides 4 ounces of insoluble matter, it left on evaporation 28 ounces of extract. This is not a correct average, for when in the highest perfection—

100 of root yield 30 of juice = 8 of extract. 100 of root, when dried, weigh 25.

Medicinal Properties.

A mild laxative, acting specially on the liver.

Preparations.

DECOCTUM.

Dried Dandelion Root, sliced and bruised, 1; Distilled Water, 30: boil ten minutes, and strain. The produce should measure 20.

(Lond. fresh root; Edin. has provided for the varying condition of the root at different seasons by ordering the whole plant in a fresh state to be used; in Belg.; not. in Dub. or others.)

Dose.—2 to 4 oz.

EXTRACTUM.

Crush fresh Dandelion Root, press out the juice, and allow it to deposit; heat the clear liquor to 212° F., and maintain the temperature for ten minutes; then strain, and evaporate by a water-bath at a temperature not exceeding 160° to a proper consistence.

100 pounds of fresh root yield 30 pounds of juice = 8 pounds of extract.

Dose.—5 to 15 grs.

(In all the Pharmacopœias.)

The Lond. and Edin. processes were far inferior to the present; the product was much injured by the tedious evaporation.

SUCCUS.

Bruise Dandelion Root in a stone mortar, press out the juice, and to every 3 measures of juice add 1 of Rectified Spirit; set aside seven days, and filter.

Dose.—2 to 4 drms.

A new preparation.

TEREBINTHINA CANADENSIS.

CANADA BALSAM.

The Turpentine obtained from the stem of the *Abies balsamea* by incision, in Canada.

TEREBINTHINÆ OLEUM.

OIL OF TURPENTINE.

The oil distilled from the Turpentine which exudes from the *Pinus palustris* or *P. Pinaster*, imported from America and France.

Medicinal Properties.

Stimulant, diuretic, occasionally diaphoretic, anthelmintic; in large doses purgative, sometimes causing nausea, vomiting, and intoxication. Externally rubefacient.

(In all the Pharmacopœias.)

Dose.—10 to 30 minims; as an anthelmintic, 2 to 6 drms.

Preparations.

CONFECTIO.

Oil of Turpentine, 1; Liquorice Powder, 1; Clarified Honey, 2: mix.

Dose.—60 grs. to ½ oz.

ENEMA.

Oil of Turpentine, 1 oz.; Mucilage of Starch, 15 oz.: mix.

(Same strength as Dub. Lond. and Edin.; not in others.)

LINIMENTUM.

Oil of Turpentine, 5; Ointment of Resin, 8: melt and mix.

(Same as Dub. 5 in 13; Edin. 5 in 10; Lond. 5 in 6, nearly; U.S. 2 in 5; Belg. 9½ in 10; not in Fr. Pr. and Austr.)

LINIMENTUM ACETICUM.

Oil of Turpentine, 1; Acetic Acid, 1; Liniment of Camphor, 1: mix.

A new preparation.

UNGUENTUM.

Oil of Turpentine, 1; Resin, in powder, ⅛; Yellow Wax, ½; Prepared Lard, ½: mix with heat.

(Not in any Pharmacopœia except Austr.)

THERIACA.

TREACLE.

Syn. SACCHARI FÆX, *Lond.*

The uncrystallized residue of the refining of Sugar. Golden Syrup of commerce.

Sp. g. about 1·400.

Test.—Nearly free from empyreumatic odour or flavour.

Medicinal Properties.

Demulcent, nutrient. A favourite condiment in pharmacy, chiefly employed to make pills, for which, on account of its retentiveness of moisture, it is well adapted.

Contained in Pil. Assafœt. Comp., Pil. Rhei Comp., Pil. Scillæ Comp.

THUS AMERICANUM.

COMMON FRANKINCENSE.

The concrete Turpentine of the *Pinus Tæda* and *P. palustris*, from the Southern States of North America.

The true Thus is the *Pix Burgundica* from the *Abies excelsa.*

Medicinal Properties.

Used externally as a stimulant.

Contained in Emplastrum Ferri, Empl. Galbani, Empl. Opii, Empl. Picis.

TINCTURÆ.

TINCTURES.

Many of these have been directed by the British Pharmacopœia to be made by percolation, and as this operation imposes certain conditions to be complied with in order that it may be efficiently performed, directions on the subject will be found at the end of the Appendix.

Some changes have been made in the strength of the Tinctures; for example, Tinct. Aconiti and Tinct. Belladonnæ have been reduced, whilst others have been strengthened, as Tinct. Calumbæ, Cardamomi, Myrrhæ, Rhei, Sennæ, Serpentariæ, Tolutana, and Zingiberis.

Stronger preparations of Aconite and Belladonna will be found classed with the Liniments.

The Tinctures of former Pharmacopœias omitted from the British are the following:—Tinctura Aloes Composita, Lond.; Aloes et Myrrhæ, Edin.; Ammoniæ Composita, Lond.; Camphoræ, Lond. Edin. Dub. (*see* SP. CAMPHORÆ); Cardamomi, Edin.; Cassiæ, Edin.; Castorei Ammoniata, Edin.; Cinchonæ Pallidæ, Lond. Edin. Dub.; Cinnamomi Composita, Lond. Edin. Dub.; Colchici Composita, Lond.; Conii, Lond. Edin.; Cubebæ, Lond. Dub.; Cuspariæ, Edin.; Ergotæ Ætherea, Lond.; Ferri Acetatis, Dub.; Ferri Ammonio-Chloridi, Lond.; Guaiaci, Edin. Dub.; Hellebori, Lond.; Iodinii (Simplex), Edin.; Lactucarii, Edin.; Lupulinæ, Dub.; Matico, Dub.; Opii Ammoniata, Edin.; Quassiæ, Edin.; Quassiæ Composita, Edin.; Rhei et Aloes, Edin.; Rhei et Gentianæ, Edin.

The following names have been changed:—Tinctura Catechu Composita, Lond. Edin. Dub., now Tinct. Catechu; Tinctura Iodinii Composita, Lond. Edin. Dub., now Tinctura Iodi; Tinct. Opii Camphorata, Edin. Dub., now Tinctura Camphoræ cum Opio; Tinct. Rhei Composita, Lond. Dub., now Tinctura Rhei.

The new Tinctures introduced are:—Tinctura Arnicæ, Conii Fructus, Nucis Vomicæ, Sabinæ, Senegæ.

The following are the Tinctures of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared; all are made with Proof Spirit unless otherwise stated:—

Dose.		Proportion of active ingredients in the mass.	
20 min.	TINCTURA ACONITI	1 in 8	Rect. Sp.
1 drm.	TINCTURA ALOES	1 in 40.	
2 drms.	TINCTURA ARNICÆ	1 in 20	Rect. Sp.
½ drm.	TINCTURA ASSAFŒTIDÆ	1 in 8	Rect. Sp.
2 drms.	TINCTURA AURANTII	1 in 10.	
5 min.	TINCTURA BELLADONNÆ	1 in 20.	
½ drm.	TINCTURA BENZOINÆ COMP.	1 in 10	Rect. Sp.
1 drm.	TINCTURA BUCCO	1 in 8.	
1 drm.	TINCTURA CALUMBÆ	1 in 8.	
½ drm.	TINCTURA CAMPHORÆ CUM OPIO	Opium 1, Benzoic Acid 1, Camphor ¾, in 240.	
5 min.	TINCTURA CANNABIS INDICÆ	1 in 20	Rect. Sp.
10 min.	TINCTURA CANTHARIDIS	1 in 80.	
10 min.	TINCTURA CAPSICI	1 in 27	Rect. Sp.

Dose.		Proportion of active ingredients in the mass.	
1 drm.	TINCTURA CARDAMOMI COMP.	1 in 80.	
½ drm.	TINCTURA CASCARILLÆ	1 in 8.	
½ drm.	TINCTURA CASTOREI	1 in 20	Rect. Sp.
1 drm.	TINCTURA CATECHU	1 in 8.	
10 min.	TINCTURA CHIRETTÆ	1 in 8.	
1 drm.	TINCTURA CINCHONÆ COMP.	1 in 10.	
1 drm.	TINCTURA CINCHONÆ FLAVÆ	1 in 5.	
1 drm.	TINCTURA CINNAMOMI	1 in 8.	
20 min.	TINCTURA COCCI	1 in 8.	
20 min.	TINCTURA COLCHICI SEMINIS	1 in 8.	
½ drm.	TINCTURA CONII FRUCTUS	1 in 8.	
½ drm.	TINCTURA CROCI	1 in 20.	
20 min.	TINCTURA DIGITALIS	1 in 8.	
15 min.	TINCTURA ERGOTÆ	1 in 4.	
10 min.	TINCTURA FERRI PERCHLORIDI	1 in 4	Rect. Sp.
½ drm.	TINCTURA GALLÆ	1 in 8.	
1 drm.	TINCTURA GENTIANÆ COMP.	1 in 13.	
½ drm.	TINCTURA GUAIACI AMMONIATA	1 in 5	Arom. Sp. Ammon.
15 min.	TINCTURA HYOSCYAMI	1 in 8.	
10 min.	TINCTURA IODI	Iodine 1, Iodide Potass. ½, in 40	Rect. Sp.
½ drm.	TINCTURA JALAPÆ	1 in 8.	
½ drm.	TINCTURA KINO	1 in 10	Rect. Sp.
2 drms.	TINCTURA KRAMERIÆ	1 in 8.	
½ drm.	TINCTURA LAVANDULÆ COMP.	(Oil) 1 in 213	Rect. Sp.
1 drm.	TINCTURA LIMONIS	1 in 8.	
1 drm.	TINCTURA LOBELIÆ	1 in 8.	
1 drm.	TINCTURA LOBELIÆ ÆTHEREA	1 in 8	Sp. Ether.
½ drm.	TINCTURA LUPULI	1 in 8.	
½ drm.	TINCTURA MYRRHÆ	1 in 8	Rect. Sp.
10 min.	TINCTURA NUCIS VOMICÆ	1 in 10	Rect. Sp.
15 min.	TINCTURA OPII	1 in 13.	
1 drm.	TINCTURA QUINIÆ COMP.	1 in 60	Tr. Orange.
1 drm.	TINCTURA RHEI	1 in 10.	
15 min.	TINCTURA SABINÆ	1 in 8.	
20 min.	TINCTURA SCILLÆ	1 in 8.	
½ drm.	TINCTURA SENEGÆ	1 in 8.	
2 drms.	TINCTURA SENNÆ	1 in 8.	
½ drm.	TINCTURA SERPENTARIÆ	1 in 8.	
10 min.	TINCTURA STRAMONII	1 in 8.	
5 min.	TINCTURA TOLUTANA	1 in 8	Rect. Sp.
1 drm.	TINCTURA VALERIANÆ	1 in 8.	
½ drm.	TINCTURA VALERIANÆ AMMONIATA	1 in 8	Arom. Sp. Ammon.
½ drm.	TINCTURA ZINGIBERIS	1 in 8	Rect. Sp.

TRAGACANTHA.

TRAGACANTH.

A gummy exudation from the stem of the *Astragalus verus*, collected in Asia Minor.

Sparingly soluble in cold water.

Test.—After maceration in cold water, the fluid portion is not precipitated by the addition of Rectified Spirit (indicating absence of Acacia Gum); and the gelatinous mass is not turned deep blue by Tincture of Iodine (indicating absence of Starch).

Medicinal Properties.

Demulcent, useful for the suspension of heavy insoluble powders.

Preparation.

MUCILAGO.

Tragacanth, 100 grs.; boiling Distilled Water, 10 oz.: macerate twenty-four hours, then triturate and express through calico.

(Not in Lond. or Dub.; Edin. 120 grs. to 9 oz.; Austr. and Belg. 40 grs. in 10 oz.; M. Spissa (Austr.) 230 in 10 oz.; Fr. 1 in 9; not in Pr.; U. S. 1 in 17.)

One part of Tragacanth gives more viscosity to water than 25 parts of Gum Arabic.

PULVIS COMPOSITUS.

Tragacanth in powder, 1; Gum Arabic in powder, 1; Starch, 1; Refined Sugar in powder, 3: rub well together.

(Lond. and Edin. 1 in 5; not in others.)

Dose.—10 to 60 grs.

TROCHISCI.

LOZENGES.

Lozenges are especially Edinburgh preparations, the London and Dublin Pharmacopœias not containing any of them.

The following Trochisci are omitted from the British Pharmacopœia:—Trochisci Acaciæ, Acidi Tartarici, Cretæ, Glycyrrhizæ, Lactucarii, Magnesiæ, Sodæ Bicarbonatis.

The following are newly introduced:—Trochisci Acidi Tannici, Bismuthi, Catechu.

The following are the Trochisci of the British Pharmacopœia:—

		Quantity of the active ingredient contained in each lozenge.
TROCHISCI ACIDI TANNICI		$\frac{1}{2}$ grain.
TROCHISCI BISMUTHI		2 grains.
TROCHISCI CATECHU		$1\frac{1}{4}$ grain.
TROCHISCI MORPHIÆ	(Hydrochlorate)	$\frac{1}{36}$ grain.
TROCHISCI MORPHIÆ ET IPECACUANHÆ	„	$\frac{1}{36}$ and $\frac{1}{12}$ grain Ipecac.
TROCHISCI OPII	(Extract)	$\frac{1}{10}$ grain.

ULMUS.

ELM BARK.

The dried inner bark of the *Ulmus campestris*, deprived of its outer layer; from trees indigenous to and cultivated in Britain.

Medicinal Properties.

Bitter, mucilaginous, astringent and diuretic. Used in herpetic eruptions.

Preparation.

DECOCTUM.

This preparation is mentioned in the Materia Medica of the British Pharmacopœia, but as it is not found among the preparations, the Author has copied the formula from the London Pharmacopœia.

Elm Bark, fresh, bruised, 1; Distilled Water, 16: boil down to 8 and strain.

(Lond. only.)

Dose.—4 to 6 oz. three or four times daily.

UNGUENTA.

OINTMENTS.

All the Cerates are now merged into this group. Every one must have felt the inconvenience of referring from one part of the Pharmacopœia to another for Cerates and Ointments, and there appeared no reason why they should not all be designated Ointments, and classed together.

The Cerates of former Pharmacopœias omitted from the British Pharmacopœia are:—Ceratum, Lond.; Ceratum Calaminæ, Lond. and Edin.; Cantharidis, Lond.; Cetacei, Lond.; Hydrargyri Comp., Lond.; Plumbi Acetatis, Lond.; Plumbi Comp. Lond., now Ung. Plumbi Subacetatis, and made with White Wax; Resinæ, Lond.; Saponis Comp., Lond.; Simplex, Edin.

The Ointments omitted are:—Unguentum Æruginis, Edin.; Cupri Subacetatis, Edin.; Infusi Cantharidis, Edin.; Ceræ Albæ, Dub.; Conii, Lond.; Hydrargyri Iodidi, Lond.; Hydrargyri Nitratis Mitius, Lond.; Opii, Lond.; Picis, Lond.; Picis Liquidæ, Lond. Edin. Dub.; Plumbi Acetatis, Edin. Dub.; Plumbi Comp., Lond.; Plumbi Iodidi, Lond. Dub.; Sambuci, Lond.; Sulphuris Comp., Lond.; Sulphuris Iodidi, Lond.

The following are new preparations:—Unguentum Aconitiæ, Atropiæ, Calomelanos, Gallæ, Terebinthinæ, Veratriæ.

The following are the Ointments of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

		Proportion of active ingredients in the mass.
UNGUENTUM ACONITIÆ		1 in 60.
UNGUENTUM ANTIMONII TARTARATI		1 in 5.
UNGUENTUM ATROPIÆ		1 in 60.
UNGUENTUM BELLADONNÆ	(Extract)	1 in 6½.
UNGUENTUM CALOMELANOS		1 in 6½.
UNGUENTUM CANTHARIDIS		1 in 8.
UNGUENTUM CETACEI		1 in 5.
UNGUENTUM COCCULI		1 in 6½.
UNGUENTUM CREASOTI		1 in 9.
UNGUENTUM ELEMI		1 in 5.
UNGUENTUM GALLÆ		1 in 6½.
UNGUENTUM GALLÆ CUM OPIO	(Opium)	1 in 15.
UNGUENTUM HYDRARGYRI		1 in 3.
UNGUENTUM HYDRARGYRI AMMONIATI		1 in 8.
UNGUENTUM HYDRARGYRI IODIDI RUBRI		1 in 28.
UNGUENTUM HYDRARGYRI NITRATIS	(Mercury)	1 in 15.
UNGUENTUM HYDRARGYRI OXIDI RUBRI		1 in 8.
UNGUENTUM IODI COMP.	(Iodine)	1 in 31.
UNGUENTUM PLUMBI CARBONATIS		1 in 8.
UNGUENTUM PLUMBI SUBACETATIS	(Solution of Subacetate of Lead)	1 in 6.
UNGUENTUM POTASSII IODIDI		1 in 9.
UNGUENTUM RESINÆ		1 in 3½.
UNGUENTUM SABINÆ		1 in 3½.
UNGUENTUM SIMPLEX.		
UNGUENTUM SULPHURIS		1 in 5.
UNGUENTUM TEREBINTHINÆ	(Oil)	1 in 2.
UNGUENTUM VERATRIÆ		1 in 60.
UNGUENTUM ZINCI OXIDI		1 in 8.

UVA URSI.

BEARBERRY LEAVES.

The dried leaves of the *Arctostaphylos Uva-Ursi*, from indigenous plants.

Test.—Leaves not dotted beneath, nor toothed on the margin.

(Lond. Edin. Dub. U. S. Belg.)

Medicinal Properties.

Astringent and tonic, with a direct influence on the kidneys and urinary organs. Used in menorrhagia and diabetes, also in chronic dysentery.

Dose.—Of the powdered leaf, ¼ to 1 drm.

Preparation.

INFUSUM.

Bearberry leaves, 1; boiling Distilled Water, 23: infuse two hours, and strain.

(Lond. Edin. and Dub. U. S., Decoctum; not in others.)

A new preparation.

Dose.—1 to 2 oz.

UVÆ.

RAISINS.

The ripe fruit of the *Vitis vinifera*, dried in the sun or with artificial heat. Imported from Spain.

Medicinal Properties.

Nutritious and demulcent. Principally used as a flavouring agent.

Contained in Tinct. Cardam. Comp., Tinct. Sennæ.

VALERIANA.

VALERIAN.

The root of the *Valeriana officinalis*, indigenous and cultivated in Britain, collected in autumn and dried; that from wild plants growing on dry soil preferred.

Medicinal Properties.

It is a nervous stimulant and antispasmodic. Useful in hysteria and nervous disorders.

Dose.—20 to 30 or 40 grs. of the powder.

Preparations.

INFUSUM.

Valerian, bruised, 120 grs.; boiling Distilled Water, 13 oz.: infuse one hour, and strain.

(Same as Lond. Dub. U. S.; not in others.)

Dose.—1 to 2 oz.

TINCTURA.

Valerian, bruised, 1; Proof Spirit, 8: macerate the Valerian forty-eight hours with 6 of the spirit, agitating occasionally; pack in a percolator, let it drain, pour on the remainder of the spirit; when it ceases to drop, press and filter, washing the marc with spirit to make up 8.

(Same as Lond. Edin. Dub. and Austr.; U. S. 1 in 7; Belg. Fr. and Pr. 1 in 6.)

Dose.—1 to 3 drms.

TINCTURA AMMONIATA.

Valerian, bruised, 1; Aromatic Spirit of Ammonia, 8: macerate the Valerian seven days, filter, and add spirit to make 8.

(Same as Lond. and Edin. Tinct. Valerianæ Comp.; not in Dub.; Belg. and Pr. 1 in 6; U.S. 1 in 7; not in Austr.)

Dose.—½ to 1 drm.

VERATRIA.

VERATRIA.

An alkaloid, $C_{64}H_{52}N_2O_{16}$, obtained from Cevadilla, not quite pure; eq. 592.

Pale grey, amorphous, pulverulent masses, powerfully irritating the nostrils, strongly and persistently bitter, and highly acrid.

Solubility: scarcely soluble in cold water; in boiling water, 1 in 1000; in Rectified Spirit, 1 in 11; in Ether, 1 in 6; and readily in diluted acids.

Medicinal Properties.

Used externally in neuralgia, in chronic swellings, stiffening or induration of the joints. It should be cautiously used where the skin is broken. Rarely given internally.

(In all the Pharmacopœias except Dub.)

Preparation.

UNGUENTUM.

Veratria, 8 grs.; Prepared Lard, 1 oz.; Olive Oil, ½ drm.: rub the Veratria and the Oil together, then mix thoroughly with the Lard.

A new preparation.

(U.S. 20 grs. to 1 oz.; Belg. 1 in 100; not in others.)

VINA.

WINES.

Medicated Wines are of very ancient date, and were admitted into our earliest Pharmacopœias. Two only remain as representatives of the old Pharmacopœias—Vinum Antimonii and V. Ferri; the former was prepared by digesting 4 ounces of the Regulus of Antimony in powder with 3 pounds of "White" Wine (Pharmacopœia Londinensis, 1655). The latter (Vinum Chalybeatum) was made with Rhenish Wine and iron filings.

The Wines of former Pharmacopœias omitted from the British are:—Vinum Antimonii Potassio-Tartratis, Lond., now Vinum Antimoniale; Vinum Gentianæ, Edin.; Vinum Rhei, Edin. Dub.; Vinum Tabaci, Edin.; Vinum Veratri, Lond.

The following are the Wines of the British Pharmacopœia, the formulæ for which will be found under the names of the drugs from which they are prepared:—

	Proportion of active ingredients in the whole.
VINUM ALOES	1½ in 40
VINUM ANTIMONIALE	2 grs. to 1 oz., or 1 in 240
VINUM COLCHICI	1 in 5
VINUM FERRI	8 grs. to 1 oz., or 1 in 60
VINUM IPECACUANHÆ	1 to 20
VINUM OPII	1½ to 20
VINUM XERICUM.	

VINUM XERICUM.

SHERRY.

A Spanish Wine, containing about seventeen or eighteen per cent. of Alcohol. Unless good sound Sherry is used, the preparations are apt to spoil in keeping.

ZINCUM.

ZINC.

A bluish-white metal (Zn; eq. 32·5), of peculiar taste and of a perceptible smell when rubbed; laminated, and with a crystalline fracture. Sp. g. 6·8.

It occurs native, as a Sulphuret or as a Carbonate, and is separated from impurities by sublimation.

The British Pharmacopœia has continued the preparations of Zinc that were in former Pharmacopœias, viz.:—

ZINCI ACETAS.
ZINCI CARBONAS.
ZINCI CHLORIDUM.
ZINCI OXIDUM.
ZINCI SULPHAS.
ZINCI VALERIANAS.

ZINCI ACETAS.

ACETATE OF ZINC.

$ZnO,C_4H_3O_3 + 2\,HO$; eq. 109·5.

Thin, translucent, and colourless crystalline plates, of pearly lustre.

Solubility: in water, 10 in 25.

Test.—A dilute watery solution is not affected by Chloride of Barium or Nitrate of Silver; and when slightly acidulated with Hydrochloric Acid, is not precipitated by Sulphuretted Hydrogen. Indicating absence of Lead. After it has been boiled for a few minutes with a little Nitric Acid, it yields with Ammonia a white precipitate, entirely soluble without colour in an excess of the reagent. Oxide of Zinc.

Medicinal Properties.

Astringent.

(Dub. U. S.; not in others.)

Not Officinal.

Lotio.—Acetate of Zinc, 1 to 2 grs.; Water, 1 oz.: mix.

An astringent collyrium in ophthalmia, or as an injection in gonorrhœa after the acute stage has passed.

ZINCI CARBONAS.

CARBONATE OF ZINC.

$(ZnO,CO_2+HO)+2(ZnO,HO)$; eq. 170·5.

A white, tasteless, inodorous powder.

Insoluble in water.

Test.—Its solution in dilute Nitric Acid is not precipitated by Chloride of Barium (indicating absence of sulphate), or Nitrate of Silver (absence of chloride), and gives with Carbonate of Ammonia a white precipitate, entirely soluble without colour in an excess of the reagent. Carbonate of Zinc.

Medicinal Properties.

Same as those of the Oxide of Zinc.

(Dub. U. S.; not in others.)

Dose.—2 to 10 grs.

ZINCI CHLORIDUM.

CHLORIDE OF ZINC.

$ZnCl$; eq. 67·8.

In colourless opaque rods or tablets, very deliquescent and caustic.

Solubility in water, 10 in 4; freely in Rectified Spirit and Ether.

Test.—Its watery solution is not affected by Chloride of Barium (indicating absence of Sulphuric Acid) or Oxalate of Ammonia (absence of Lime), and is not tinged blue by the Ferrocyanide or Ferridcyanide of Potassium (absence of Iron). Ammonia throws down a white precipitate entirely soluble in an excess of the reagent (Oxide of Zinc).

Medicinal Properties.

Internally, a weak solution is alterative and tonic; externally, applied as a caustic to malignant sores, either mixed with an equal proportion of flour or alone, and as it liquefies, sprinkle with plaster of Paris to prevent its spreading, care being taken that it does not come in contact with the edges of the skin.

Preparation.

LIQUOR.

This preparation is noticed in the Materia Medica of the British Pharmacopœia, but no formula is given. The former Dublin solution had a sp. g. of 1·593, whereas Sir William Burnett's Disinfecting Solution has a sp. g. of 2·000. Chiefly used for deodorizing and disinfecting purposes.

ZINCI OXIDUM.

OXIDE OF ZINC.

ZnO; eq. 40·5.

A soft, white, tasteless, and inodorous powder.

Insoluble in water.

Test.—Dissolves without effervescence in diluted Nitric Acid, forming a solution which is not affected by Chloride of Barium (absence of sulphates), or Nitrate of Silver (absence of chlorides), and gives, with Carbonate of Ammonia, a white precipitate which dissolves entirely without colour in any excess of the reagents.

Medicinal Properties.

Internally as a tonic, especially in spasmodic affections. Astringent and absorbent, employed externally in the form of powder or ointment, to slight excoriations.

(Lond. Edin. Dub. U. S.)

Dose.—2 to 10 grs.

ZINCI SULPHAS.

SULPHATE OF ZINC.

ZnO,SO_3+7HO; eq. 143·5.

In colourless, transparent, prismatic crystals, with a strong metallic styptic taste.

Soluble in water, 10 in 7. Insoluble in Rectified Spirit.

Test.—In watery solution is not tinged purple by Tincture of Galls (indicating absence of Iron), and when acidulated with Sulphuric or Hydrochloric Acid, gives no precipitate with Sulphuretted Hydrogen (indicating absence of Lead and Copper). After it has been boiled for a few minutes with a little Nitric Acid, it yields with ammonia a white precipitate, which is entirely soluble without colour in an excess of the reagent—Oxide of Zinc.

Medicinal Properties.

In small doses tonic and astringent, chiefly employed in spasmodic diseases, as epilepsy, chorea, tussis, etc.; in large doses a prompt emetic. As an astringent, chiefly externally, as an injection in fluor albus and in the advanced stages of gonorrhœa, and as a collyrium in ophthalmia, or a wash for indolent ulcers. It is also used as a styptic.

(In all the Pharmacopœias.)

Dose.—As a tonic, 1 to 2 grs.; emetic, 10 to 30 grs.; an injection may be made with 1 to 3 grs. to an ounce of water.

ZINCI VALERIANAS.

VALERIANATE OF ZINC.

$ZnO,C_{10}H_9O_3$; eq. 133·5.

In bright white, pearly, tabular crystals, with a feeble odour of Valerianic Acid and a metallic taste.

Solubility in water, 1 in 120; in Rectified Spirit, 1 in 60; in Ether, 1 in 500.

Test.—Its solution in hot water is not precipitated by Chloride of Barium. It gives, when heated with dilute Sulphuric Acid a distillate (Valerianic Acid), which when mixed with the solution of Acetate of Copper, does not immediately affect the transparency of the fluid, but forms after a little time oily drops, which gradually pass into a bluish-white crystalline deposit—Valerianate of Copper.

Medicinal Properties.

Antispasmodic, chiefly used in hysterical affections. As a topical astringent in chronic conjunctivitis, as a collyrium (1 or 2 grains to 1 ounce water).

(Dub. U. S. Austr. Belg.; not in Lond. Edin. Pr. Fr.)

Dose.—1 to 6 or more grs. either in pill or solution.

ZINGIBER.

GINGER.

The rhizome of *Zingiber officinale*, scraped and dried; from plants cultivated in the West Indies, India, and other countries.

Medicinal Properties.

Stimulant and carminative. It is given in dyspepsia, flatulency, and as an adjunct to purgative medicines. Used as a gargle in cases of relaxed uvula and tonsils.

(In all the Pharmacopœias.)

Dose.—In powder, 10 to 20 grs.

Contained in Conf. Scammonii, Inf. Sennæ, Pil. Scillæ Comp., Pulv. Jalapæ Comp., Pulv. Rhei Comp., Pulv. Scammonii Comp.

Preparations.

SYRUPUS.

Tincture of Ginger, 1; Syrup, 7: mix.

(Nearly the same as Dub.; Lond. Edin. and Belg. with root; not in others.)

Dose.—1 to 4 drms.

TINCTURA.

Ginger bruised, 1; Rectified Spirit, 8: macerate the Ginger forty-eight hours in 6 of the spirit, agitating occasionally; pack in a percolator, let it drain, pour on the remaining spirit, and when it ceases to drop press, filter and add spirit to make 8.

(Lond. Edin. 1 in 16; Dub. and Fr. 1 in 5; U. S. 1 in 3½; Belg. 1 in 6; not in Austr. or Pr.)

Dose.—½ to 1 drm.

APPENDIX A.

ARTICLES EMPLOYED IN THE PREPARATION OF MEDICINES.

ACETATE OF SODA.

ARSENIOUS ACID OF COMMERCE. White Arsenic.

BICHROMATE OF POTASH.

BISMUTH.

BLACK OXIDE OF MANGANESE.

BONE ASH.

BONE BLACK. Animal Charcoal, Ivory Black.

BREAD.

BROMINE.

CHALK.

DRIED CHLORIDE OF CALCIUM.

COTTON. Cotton Wool.

ETHER, PURE. Ether free from Alcohol and Water, C_4H_5O.

Take of Ether, 2 pints; Distilled Water, 2 pints; Lime recently burned, ¼ oz.; Chloride of Calcium perfectly dry, 4 oz. Shake the Ether with 1 pint of the water, and after separation has taken place, decant the Ether, and again shake it with the remainder of the water. Decant again, and put the washed Ether into a retort with the Lime and the Chloride of Calcium, and after digestion for twenty-four hours, distil with the aid of a gentle heat.

Test.—Sp. g. not exceeding 0·720.

FERROCYANIDE OF POTASSIUM. Yellow Prussiate of Potash.

FLOUR. Wheat Flour.

FOUSEL OIL. Amylic Alcohol.

HOG'S FAT.

HYDROCHLORIC ACID OF COMMERCE.

IODINE OF COMMERCE.

IRON WIRE. Annealed Iron Wire, Binding Wire.

MARBLE.

MERCURY OF COMMERCE.

MILK. Cow's Milk.

NITRATE OF POTASH OF COMMERCE.

NITRATE OF SODA.

NITRITE OF SODA. NaO,NO_3.

Take of Nitrate of Soda, 1 lb.; Charcoal recently burned, and in fine powder, 1¼ oz. Mix the Nitrate of Soda and the Charcoal thoroughly in a mortar, and drop the mixture in successive portions into a clay crucible heated to dull redness. When the salt has become quite white, raise the heat so as to liquefy it, pour it out on a clean flagstone, and, when it has solidified, break it into fragments, and keep it in a stoppered bottle.

Characters.—In opaque white fragments, soluble in water and Rectified Spirit. The aqueous solution gives a white crystalline precipitate with Nitrate of Silver, which dissolves in hot water. A fragment, moistened with a solution of Sulphate of Copper, acquires an emerald-green colour. Tartaric Acid, added to a strong solution, developes ruddy fumes, but gives no precipitate. This is a mixture of several substances, containing never more than 25 per cent. Nitrite of Soda.

OX BILE. Ox GALL.

PHOSPHORUS.

PYROXYLIN. GUN COTTON.

Take of Cotton, 1 oz.; Sulphuric Acid, 5 fl. oz.; Nitric Acid, sp. g. 1·420, 5 fl. oz. Mix the Acids in a porcelain mortar, immerse the cotton in the mixture, and stir it for three minutes with a glass rod, until it is thoroughly wetted by the acids. Transfer the cotton to a vessel containing water, stir it well with a glass rod, decant the liquid, pour more water upon the mass, agitate again, and repeat the affusion, agitation, and decantation, until the washing ceases to give a precipitate with Chloride of Barium. Drain the product on filtering-paper, and dry in a water bath.

Test.—Readily soluble in a mixture of Ether and Rectified Spirit; leaves no residue when exploded by heat.

BISULPHATE OF POTASH.

SILVER, REFINED.

SOLUTION OF PERSULPHATE OF IRON. Persulphate of Iron, $Fe_2O_3,3SO_3$, in solution in Water.

Take of Sulphate of Iron, 8 oz.; Sulphuric Acid, 6 fl. drms.; Nitric Acid, 4 fl. drms.; Distilled Water, 12 fl. oz., or a sufficiency. Add the Sulphuric Acid to 10 ounces of the water, and dissolve the Sulphate of Iron in the mixture, with the aid of heat. Mix the Nitric Acid with the remaining 2 ounces of water, and add the dilute acid to the solution of Sulphate of Iron. Concentrate the whole by boiling, until, upon the sudden disengagement of ruddy vapours, the liquid ceases to be black, and acquires a red colour. A drop of the solution is now to be tested with Ferridcyanide of Potassium, and if a blue precipitate forms, a few additional drops of Nitric Acid should be added, and the boiling renewed, in order that the whole of the Protosulphate may be converted into Persulphate of Iron. When the solution is cold, make the quantity 11 fluid ounces, by the addition, if necessary, of Distilled Water.

Characters.—A viscid solution of a dark-red colour, inodorous, and very astringent, miscible in all proportions with alcohol and water. Diluted with 10 volumes of water it gives a white precipitate with the Chloride of Barium, and a blue precipitate with the Ferrocyanide but not with the Ferridcyanide of Potassium.

Test.—Sp. g. 1·441. 1 fluid drachm diluted with 2 fluid ounces of Distilled Water gives upon the addition of an excess of solution of Ammonia a precipitate, which, when well washed and incinerated, weighs 11·44 grains: Oxide of Iron.

SQUIRTING CUCUMBER FRUIT.

SULPHATE OF AMMONIA. NH_4O,SO_3.

SULPHATE OF COPPER OF COMMERCE.

SULPHATE OF MERCURY.

SULPHURET OF ANTIMONY, PREPARED.

SULPHURIC ACID OF COMMERCE. Oil of Vitriol.

Test.—Sp. g. 1·840 to 1·850. When the Acid mixed with six times its volume of Distilled Water is placed in contact with pure Zinc, and the Hydrogen evolved is ignited as it escapes from the capillary extremity of a glass tube, if a dark stain is formed on a piece of porcelain held low down on the flame, the acid contains Arsenic, and is to be rejected. When a Solution of Sulphate of Iron is poured cautiously on the surface of the undiluted Acid, if a red tint appears at the surface of contact, the Acid contains Nitrous Acid, and if the Acid diluted as above becomes turbid, it contains other impurities, and in either case requires purification.

VALERIANATE OF SODA. $NaO,C_{10}H_9O_3$.

WHITE OF EGG.

ZINC, GRANULATED.

ZINC OF COMMERCE.

APPENDIX B.

I. ARTICLES EMPLOYED IN CHEMICAL ANALYSIS.

ALCOHOL. Absolute Alcohol. Hydrate of Oxide of Ethyl, C_4H_5O,HO.
Test.—Sp. g. 0·795. It is entirely volatilized by heat, is not rendered turbid when mixed with water, and does not give rise to a blue colour when in contact with Anhydrous Sulphate of Copper.

BORACIC ACID. BO_3+3HO.

CHLORIDE OF BARIUM. $BaCl+2HO$.

COPPER FOIL. Pure Metallic Copper, thin and bright.

FERRIDCYANIDE OF POTASSIUM. Red Prussiate of Potash. K_3,Fe_2Cy_6. (Cyanogen, $Cy=C_2N$.)

Test.—Its solution in water gives no precipitate with Persulphate of Iron.

GOLD, FINE. Gold, free from metallic impurities.

HYPOSULPHITE OF SODA. NaO,S_2O_2+5HO.
Test.—24·8 grains decolorize 100 measures of the volumetric Solution of Iodine.

INDIGO. $C_{16}H_5NO_2$.

ISINGLASS.

LITMUS.

LITMUS PAPER, BLUE. Unsized paper steeped in Tincture of Litmus, and dried by exposure to the air.

LITMUS PAPER, RED. Unsized paper steeped in Tincture of Litmus which has been previously reddened by the addition of a very minute quantity of Sulphuric Acid, and dried by exposure to the air.

LITMUS TINCTURE. Take of Litmus, in powder, 1 oz.; Proof Spirit, 10 fl. oz. Macerate for seven days, and filter.

OXALIC ACID OF COMMERCE.

OXALIC ACID, PURIFIED. HO,C_2O_3+2HO.
Test.—Is entirely dissipated by a heat below 350°.

PLASTER OF PARIS.

PLATINUM FOIL.

POTASSIUM.

SUBACETATE OF COPPER OF COMMERCE. VERDIGRIS. $2CuO,C_4H_3O_3+6HO$.

SULPHATE OF COPPER, ANHYDROUS. CuO,SO_3. Sulphate of Copper deprived of its water by a heat of 400°.

Characters.—A yellowish-white powder, which becomes blue when moistened with water.

SULPHURET OF IRON. FeS.

SULPHURETTED HYDROGEN. HS.

Take of Sulphuret of Iron, ½ oz; Water, 4 fl. oz.; Sulphuric Acid of Commerce, a sufficiency. Place the Sulphuret of Iron and the Water in a gas-bottle closed with a cork perforated by two holes, through one of which pass air-tight a funnel tube of sufficient length to dip into the water, and through the other a tube for giving exit to the gas. Through the former pour from time to time a little of the acid, so as to develope the Sulphuretted Hydrogen according as it is wanted.

TIN, GRANULATED.

TURMERIC.

TURMERIC PAPER. Unsized Paper steeped in Tincture of Turmeric, and dried by exposure to the air.

TURMERIC TINCTURE.

Take of Turmeric, bruised, 1 oz.; Proof Spirit, 6 fl. oz.: macerate for seven days, and strain.

II. TEST SOLUTIONS FOR QUALITATIVE ANALYSIS.

SOLUTION OF ACETATE OF COPPER.

(Acetate of Copper $= CuO,C_4H_3O_3+HO$.)

Take of Subacetate of Copper of Commerce, in fine powder, ½ oz.; Acetic Acid, 1 fl. oz.; Distilled Water, a sufficiency: dilute the acid with half a fluid ounce of the water; digest the Subacetate of Copper in the mixture at a temperature not exceeding 212° with repeated stirring, and continue the heat until a dry residue is obtained. Digest this in 4 ounces of boiling Distilled Water, and by the addition of more of the water make up the solution to 5 fluid ounces.

SOLUTION OF ACETATE OF POTASH.

Take of Acetate of Potash, ½ oz.; Distilled Water, 5 fl. oz.: dissolve.

SOLUTION OF ACETATE OF SODA.

Take of Acetate of Soda, ½ oz.; Distilled Water, 5 fl. oz.: dissolve.

SOLUTION OF ALBUMEN.

Take of 1 Egg the white; Distilled Water, 4 fl. oz.: mix by trituration in a mortar, and filter through clean tow first moistened with Distilled Water. This solution must be recently prepared.

SOLUTION OF AMMONIO-NITRATE OF SILVER. (Ammonio-Nitrate of Silver $= AgO,NO_5+2NH_3$.)

Take of Nitrate of Silver, in crystals, ¼ oz.; Solution of Ammonia, ½ fl. oz., or a sufficiency; Distilled Water, a sufficiency: dissolve the Nitrate of Silver in 8 fluid ounces of the water, and to the solution add the Ammonia until the precipitate first formed is nearly dissolved. Clear the solution by filtration, and then add Distilled Water, so that the bulk may be 10 fluid ounces.

SOLUTION OF AMMONIO-SULPHATE OF COPPER. (Ammonio-Sulphate of Copper $= CuO,SO_3+2NH_3,HO$.)

Take of Sulphate of Copper, in crystals, ½ oz.; Solution of Ammonia, a sufficiency; Distilled Water, a sufficiency: dissolve the Sulphate of Copper in 8 fluid ounces of the water, and to the solution add the Ammonia until the precipitate first formed is nearly dissolved. Clear the solution by filtration, and then add Distilled Water, so that the bulk may be 10 fluid ounces.

SOLUTION OF AMMONIO-SULPHATE OF MAGNESIA. (Ammonio-Sulphate of Magnesia $= MgO,SO_3 + NH_4O,SO_3 + 6HO$.)

Take of Sulphate of Magnesia, 1 oz.; Hydrochlorate of Ammonia, ½ oz.; Solution of Ammonia, ½ fl. oz.; Distilled Water, a sufficiency: dissolve the Sulphate of Magnesia and Hydrochlorate of Ammonia in 8 fluid ounces of the water, and to the solution add the Ammonia, and as much Distilled Water as will make up the bulk to 10 fluid ounces.

SOLUTION OF BICHLORIDE OF PLATINUM. (Bichloride of Platinum $= PCl_2$.)

Take of thin Platinum Foil, ¼ oz.; Nitric Acid, a sufficiency; Hydrochloric Acid, a sufficiency; Distilled Water, 7 fl. oz.: mix half a fluid ounce of the Nitric Acid with 3 fluid ounces of the Hydrochloric Acid and 2 fluid ounces of the water; pour the mixture into a small flask containing the Platinum, and digest at a gentle heat, adding more of the Acids mixed in the same proportion, should this be necessary, until the metal is dissolved. Transfer the solution to a porcelain capsule, add to it a fluid drachm of Hydrochloric Acid, and evaporate on a water bath, until acid vapours cease to be given off. Let the residue be dissolved in the remaining 5 ounces of Distilled Water, and preserved in a stoppered bottle.

SOLUTION OF BORACIC ACID.

Take of Boracic Acid, 50 grs.; Rectified Spirit, 1 fl. oz.: dissolve.

SOLUTION OF BROMINE.

Take of Bromine, 10 minims; Distilled Water, 5 fl. oz. Place the Bromine in a bottle furnished with a well-fitting stopper, pour on the water, and shake several times.

SOLUTION OF CARBONATE OF AMMONIA.

Take of Carbonate of Ammonia, in fine powder, ½ oz.; Distilled Water, a sufficiency: shake the Carbonate of Ammonia in a bottle with 8 fluid ounces of the water until it is dissolved, and by the addition of more of the water make up the bulk of the solution to 10 fluid ounces.

SOLUTION OF CHLORIDE OF BARIUM.

Take of Chloride of Barium, in crystals, 1 oz.; Distilled Water, a sufficiency: dissolve the Chloride of Barium in 8 fluid ounces of the water, and add as much Distilled Water as will make the bulk of the solution 10 fluid ounces.

SOLUTION OF CHLORIDE OF CALCIUM.

Take of Chloride of Calcium, 1 oz.; Distilled Water, a sufficiency: dissolve the Chloride of Calcium in 8 fluid ounces of the water, and add as much Distilled Water as will make the bulk of the solution 10 fluid ounces.

SOLUTION (SATURATED) OF CHLORIDE OF CALCIUM.

Take of Chloride of Calcium, 336 grs.; Distilled Water, 1 fl. oz.: dissolve.

SOLUTION OF CHLORIDE OF TIN. (Chloride of Tin $= SnCl$.)

Take of Granulated Tin, 1 oz.; Hydrochloric Acid, 3 fl. oz.; Distilled Water, a sufficiency: dilute the Acid in a flask with 1 fluid ounce of the water, and, having added the Tin, apply a moderate heat until gas ceases to be evolved. Add as much of the water as will make up the bulk to 5 fluid ounces, and transfer the solution, together with the undissolved Tin, to a bottle with an accurately-ground stopper.

SOLUTION OF CORROSIVE SUBLIMATE.

Take of Corrosive Sublimate, 100 grs.; Distilled Water, 5 fl. oz.: dissolve, and keep the solution in a bottle impervious to light.

SOLUTION OF FERRIDCYANIDE OF POTASSIUM.

Take of Ferridcyanide of Potassium, in crystals, ¼ oz.; Distilled Water, 5 fl. oz.: dissolve, and keep the solution in a stoppered bottle.

SOLUTION OF FERROCYANIDE OF POTASSIUM.

Take of Ferrocyanide of Potassium, in crystals, ¼ oz.; Distilled Water, 5 fl. oz.: dissolve, and keep the solution in a stoppered bottle.

SOLUTION OF GELATINE.

Take of Isinglass, in shreds, 50 grs.; warm Distilled Water, 1 fl. oz.: mix, and digest for half an hour on a water bath with repeated shaking, and filter through clean tow moistened with Distilled Water.

SOLUTION OF HYDROCHLORATE OF AMMONIA.

Take of Hydrochlorate of Ammonia, 1 oz.; Distilled Water, a sufficiency: dissolve the Hydrochlorate of Ammonia in 8 fluid ounces of the Water, and with Distilled Water make up the bulk to 10 fluid ounces.

SOLUTION OF HYDROSULPHURET OF AMMONIA. (Hydrosulphuret of Ammonia $= NH_4S, HS$.)

Take of Solution of Ammonia, 1 fl. oz.: conduct into this a stream of Sulphuretted Hydrogen so long as this gas continues to be absorbed, and then transfer the solution to a green-glass bottle furnished with a well-ground stopper.

SOLUTION OF IODATE OF POTASH. (Iodate of Potash $= KO, IO_5$.)

Take of Iodine, 50 grs.; Chlorate of Potash, 50 grs.; Nitric Acid, 5 minims; Distilled Water, 10½ fl. oz. Rub the Iodine and Chlorate of Potash together to a fine powder; place the mixture in a Florence flask, and, having poured upon it half an ounce of the Water acidulated with the Nitric Acid, digest at a gentle heat until the colour of the Iodine disappears. Boil for one minute; then transfer the contents of the flask to a capsule, and evaporate to perfect dryness at 212°. Finally dissolve the residue in the remaining 10 ounces of Distilled Water; filter the solution, and keep it in a stoppered bottle.

SOLUTION OF IODIDE OF POTASSIUM.

Take of Iodide of Potassium, 1 oz.; Distilled Water, a sufficiency: dissolve the Iodide of Potassium in 8 fluid ounces of the water, and by the addition of Distilled Water, make up the bulk of the solution to 10 fluid ounces.

SOLUTION OF OXALATE OF AMMONIA. (Oxalate of Ammonia crystallized, $= NH_4O, C_2O_3 + HO$.)

Take of Purified Oxalic Acid, 1 oz.; boiling Distilled Water, 8 fl. oz.; Carbonate of Ammonia, in powder, a sufficiency: dissolve the Oxalic Acid in the water, neutralize the solution with the Carbonate of Ammonia, filter, cool, and crystallize.

Take of the Crystals of Oxalate of Ammonia thus obtained, first dried on filtering-paper by simple exposure to air, and free from efflorescence, ½ oz.; warm Distilled Water, 1 pint: dissolve.

SOLUTION OF PHOSPHATE OF SODA.

Take of Phosphate of Soda, in crystals, 1 oz.; Distilled Water, a sufficiency: dissolve the Phosphate of Soda in 8 fluid ounces of the Water, and add as much Distilled Water as will make the bulk of the solution 10 fluid ounces.

SOLUTION OF SULPHATE OF INDIGO.

(Sulphate of Indigo $= HO, C_{16}H_4NO, 2SO_3$.)

Take of Indigo, 5 grs.; Pure Sulphuric Acid, 1 fl. drm.; Distilled Water, 10 fl. oz.: mix the Indigo and the Sulphuric Acid in a small test-tube, and apply the heat of a water bath for an hour. Pour the blue liquid into the Distilled Water, agitate the mixture, and, when the undissolved Indigo has subsided, decant the clear liquid into a stoppered bottle.

SOLUTION OF SULPHATE OF IRON.

Take of Granulated Sulphate of Iron, 10 grs.; boiling Distilled Water, 1 fl. oz.: dissolve. This solution should be recently prepared.

SOLUTION OF SULPHATE OF LIME.

Take of Plaster of Paris, ¼ oz.; Distilled Water, 1 pint: rub the Plaster of Paris in a porcelain mortar for a few minutes with 2 oz. of the water; introduce the white mixture thus obtained into a pint bottle containing the rest of the water, shake well several times, and allow the undissolved Sulphate to subside; when this has occurred, filter, and preserve the clear solution in a stoppered bottle.

SOLUTION OF TARTARIC ACID.

Take of Tartaric Acid, in crystals, 1 oz.; Distilled Water, 8 fl. oz.; Rectified Spirit, 2 fl. oz.: dissolve the Tartaric Acid in the water, add the Rectified Spirit, and preserve the solution in a stoppered bottle.

SOLUTION OF TERCHLORIDE OF GOLD. (Terchloride of Gold $= AuCl_3$.)

Take of Fine Gold, reduced by a rolling machine to a thin lamina, 60 grs.; Nitric Acid, 1 fl. oz.; Hydrochloric Acid, 7 fl. oz.; Distilled Water, 9 fl. oz.: place the Gold in a flask with 1 fluid ounce of the Nitric and 6 fluid ounces of the Hydrochloric Acid, first mixed with 4 fluid ounces of the water, and digest until it is dissolved; add to the solution an additional fluid ounce of Hydrochloric Acid, evaporate at a heat not exceeding 212° until acid vapours cease to be given off, and dissolve the Terchloride of Gold thus obtained in 5 fluid ounces of Distilled Water. The solution should be kept in a stoppered bottle.

III. TEST SOLUTIONS FOR VOLUMETRIC ANALYSIS.

Volumetric solutions, before being used, should be shaken, in order that they may be throughout of uniform strength. They should also be preserved in stoppered bottles.

The tube used with these solutions is an Alkalimeter, which, when filled to 0, holds 1000 grains of Distilled Water at 60°, and is divided into 100 parts of equal capacity.

VOLUMETRIC SOLUTION OF BICHROMATE OF POTASH. (Bichromate of Potash, $KO,2\,CrO_3 = 147{\cdot}5$.)

Take of Pure Bichromate of Potash, 129 grs.; Distilled Water, 1 pint: dissolve. The quantity of this solution which fills the volumetric tube to 0, contains $\frac{1}{10}$ of an equivalent, in grains, of the Bichromate of Potash, and, when added to a solution of a protosalt of iron acidulated with Hydrochloric Acid, is capable of converting $\frac{1}{10}$ of 6 equivalents of iron (16·8 grains) from the state of a protosalt to that of a persalt. In practising this volumetric process, it is known that the whole of the protosalt has been converted into a persalt when a minute drop of the solution, placed in contact with a drop of the solution of Ferridcyanide of Potassium on a white plate, ceases to strike with it a blue colour.

VOLUMETRIC SOLUTION OF HYPOSULPHITE OF SODA. (Hyposulphite of Soda crystallized, $NaO,S_2O_2 + 5\,HO = 124$.)

Take of Hyposulphite of Soda, in crystals, 260 grs.; Distilled Water, a sufficiency: dissolve the Hyposulphite of Soda in 1 pint of the water, and drop the solution cautiously from the volumetric tube into 100 measures of the volumetric solution of Iodine until the brown colour of the Iodine is just discharged. Note the number of measures (N) which have been used to produce this effect; and having then taken 16 fluid ounces of the same solution, augment this quantity by the addition of Distilled Water until it amounts to $\frac{1600}{N}$ fluid ounces. If, for example, $N = 96$, the 16 ounces of the solution of the Hyposulphite should be diluted with Distilled Water so as to become $\frac{1600}{96} = 16{\cdot}66$ fluid ounces. The solution is used for estimating free Iodine, an object which it accomplishes by forming with the Iodine, Iodide of Sodium and Tetrathionate of Soda. 100 measures of it include $\frac{1}{10}$ of 2 equivalents of the Hyposulphite in grains, and therefore correspond to 12·7 grains of free Iodine.

VOLUMETRIC SOLUTION OF IODINE. (Iodine, $I = 127$.)

Take of Pure Iodine, in powder, 111·125 grs.; Iodide of Potassium, 150 grs.; Distilled Water, a sufficiency: mix the Iodide of Potassium and Iodine in a bottle with 18 ounces of the water; agitate until both are dissolved, and, when the solution is complete, add as much more Distilled Water as will make the total bulk exactly 1 pint. This solution may be employed for determining the amount of Sulphuretted Hydrogen or of a metallic sulphuret in a fluid, but is chiefly used for the estimation of Sulphurous and Arsenious acids. It is dropped from the volumetric tube into the liquid to be tested until free Iodine begins to appear in the solution. 100 volumetric measures of it include 12·7 grains ($\frac{1}{10}$ of an equivalent) of Iodine, and therefore correspond to 1·7 grains of Sulphuretted Hydrogen, 3·2 grains of Sulphurous, and 4·95 grains of Arsenious acid.

VOLUMETRIC SOLUTION OF NITRATE OF SILVER. (Nitrate of Silver, $AgO,NO_5=170$.)

Take of Nitrate of Silver, 148·75 grs.; Distilled Water, 1 pint: dissolve, and keep in an opaque stoppered bottle. The quantity of this solution which fills the volumetric tube to 0, includes 17 grains of Nitrate of Silver, or $\frac{1}{10}$ of an equivalent of the salt in grains. Upon dropping into dilute Hydrocyanic Acid rendered alkaline by soda, the precipitate first formed is upon agitation redissolved, and continues to be so until the whole of the Cyanogen of the Acid has united with the Sodium and the Silver, forming the double Cyanide of Sodium and Silver. In such experiments 100 volumetric measures of the solution correspond to 5·4 grains of absolute Hydrocyanic Acid.

VOLUMETRIC SOLUTION OF OXALIC ACID. (Oxalic Acid crystallized, $HO,C_2O_3+2HO=63$.)

Take of Purified Oxalic Acid in crystals, quite dry, but not effloresced, 551·25 grs.; Distilled Water, a sufficiency: dissolve the Oxalic Acid in 18 fluid ounces of the water, and, when the solution is complete, add as much Distilled Water as will make its bulk exactly 20 fluid ounces at 60°. The quantity of this solution which fills the volumetric tube to 0, includes exactly 63 grains of crystallized Oxalic Acid, and is therefore capable of neutralizing an equivalent in grains of any alkali, or alkaline carbonate.

VOLUMETRIC SOLUTION OF SODA. (Soda, $NaO=31$.)

Take of Solution of Soda, a sufficiency; Distilled Water, a sufficiency: fill the volumetric tube to 0 with the Solution of Soda, and drop this into 63 grains of purified Oxalic Acid dissolved in 2 fluid ounces of the water, until the acid is exactly neutralized, as indicated by litmus. Note the number of measures (N) of the solution used, and having then taken 40 fluid ounces of the Solution of Soda, augment this quantity by the addition of Distilled Water, until it becomes $\frac{4000}{N}$ fluid ounces. If for example, $N=93$, the 40 ounces of Solution of Soda should be diluted so as to become $\frac{4000}{93}=43·01$ fluid ounces. The quantity of this solution which fills the volumetric tube to 0, includes 31 grains of soda, and will therefore neutralize an equivalent in grains of any monobasic acid.

APPENDIX C.

DIRECTIONS FOR PERCOLATING TINCTURES.

After the materials have been macerated for forty-eight hours in three-fourths of the menstruum ordered, percolation will be most efficiently performed by decanting the liquid, pressing the ingredients in the hand, and carefully packing them, in small portions at a time, in a conical percolator, so that the mass shall be uniformly tight throughout. The decanted liquid may then be poured upon the ingredients and suffered to percolate; the remainder of the menstruum being afterwards poured upon them in order to chase the strong tincture out. As soon as the liquid ceases to drop, the ingredients are to be removed and pressed. Any deficiency in the product may be made up by adding more of the menstruum and repeating the pressure.

THE END.

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